

LADDER SAFETY **IN CONSTRUCTION**

COURSE OUTLINE

- **Most of the time our days are spent with our feet firmly on the ground.**
 - At ground level, our tools and work surfaces are within easy reach.
- **But there are times when we need access to things that are more difficult to get to.**
 - Sometimes a truck with a "lift bucket" can be brought in to raise us to the desired height.
 - For long-term projects, it may make sense to put up some scaffolding.
- **Most of the time though, working off the ground means bringing in a ladder.**
- **When we use them correctly, ladders make our jobs easier, and make us more productive.**
 - Ladders allow us to work comfortably in places that are ordinarily out of our reach.
 - In fact, it's hard to imagine what we'd do without them.
- **But we've got to be careful, because whenever we're on a ladder there's always the possibility we could fall.**
 - If they're used incorrectly, ladders can lead to accidents and serious injuries.
- **There are many different types of ladders. Each one is designed for a specific purpose.**
 - They can all get you safely to the right height, providing you select the correct ladder for the job you're doing.
- **Many times, stepladders will be enough to get you to where you want to be.**
 - They can vary in both height and material.
- **Other times, an extension or a straight ladder may be what you need.**
 - They should be tall enough so that the top three rungs of the ladder extend beyond the roof edge or support point.
 - This will keep the ladder stable while you're on it, and give you something to hold on to if you need to step off at the top.

- **To determine how tall a ladder you need, you should use the "4-to-1" ratio:**
 - If you're putting a ladder against a wall, the ladder should be about 1 foot away from the wall for every 4 feet of working ladder height.
 - If the ladder you've chosen can't maintain this ratio and reach your desired destination, you need one that's longer.
- **You should also think about how much weight the ladder will have to hold.**
 - Different ladders are built with different weight capacities.
 - You need to read the manufacturer's instructions to make sure the type of ladder you're using will support the weight you'll be putting on it.
- **Remember, to get a safe match you need to add the weight of the tools and materials that you'll be carrying to what the scale says you weigh.**
- **Many accidents occur when workers fail to notice problems that have developed with their ladders.**
- **Becoming familiar with the parts of the ladders that you use will help you to ensure that they're in good condition. For instance:**
 - The rungs should be firm and unbroken.
 - The ladder should have sturdy, non-slip "safety feet" to provide a stable base that prevents slipping.
- **Make sure that the ropes, pulleys and other moving parts on extension ladders are in good working order.**
- **If you're using a stepladder, verify that the "spreaders" are in good condition and can be locked into position before you climb.**
 - Stepladders should also have braces to keep the rails and side supports from swaying.
- **Some ladders are permanently fixed in place. Before climbing them be sure that:**
 - All their rungs are securely attached.
 - There is no rust or corrosion on the safety cage or the rungs.
- **As you inspect your ladder, you should fix or replace any damaged parts.**
 - If you can't repair what's broken, talk to your supervisor... and get a new ladder!
- **Once you've selected the right ladder for the job you're doing, and inspected it, you need to set it up correctly.**

- **First, make sure to secure the legs.**
 - Place them on a level surface, keeping the area around the base of the ladder clear of debris.
- **To get the feet positioned firmly, be sure the rails are perpendicular to the ground.**
 - If you're on uneven ground, shore up the legs with wood or ladder jacks.
- **If the ground is soft, placing wide boards under the feet of the ladder can help to keep it steady.**
- **If you have to place a ladder in front of a door, block or lock the door so no one can come through it while you're working.**
- **If you're using a straight or extension ladder, remember the "4-to-1" ratio.**
 - This will keep the ladder at about a 75 degree angle, and make climbing safe and easy.
- **If no one is going to be available to help you when you will be climbing, tie the ladder off at the top with a rope.**
 - It's always a good idea to put hazard signs around the area where you're working, too.
- **One of the things that makes ladders so useful is that they can be moved to wherever we need them.**
 - If possible, you should take the ladder down and carry it horizontally at your side.
 - This will help you to keep your balance, and make the ladder easier to handle.
- **If you can't comfortably carry the ladder by yourself, don't risk an accident. Get help.**
- **If you have to move a ladder while it's up:**
 - Be very careful.
 - Make the move slowly.
- **An extended ladder can easily throw you off balance or knock something down.**
 - So it's a good idea to have someone else give you a hand.

- **There are techniques that you can use when you are climbing a ladder to help you stay safe, but there are some situations when you shouldn't climb a ladder at all!**
- **Don't climb a metal ladder if you're working near power lines, electrical wiring or machinery.**
 - A metal ladder will conduct electricity.
 - It will allow the electric current to flow straight to you if it comes into contact with an uninsulated power source.
- **So if you're working around electricity, choose a non-conducting fiberglass or wooden ladder, to avoid the possibility of getting shocked.**
- **There are other situations you need to avoid as well.**
 - Never climb ladders in poor weather conditions... rain and wind can make climbing dangerous.
 - Don't climb ladders if you are sick or are taking medication that makes you drowsy (it's too easy to lose your balance if you're not feeling up to snuff).
- **Some people have a fear of being in high places.**
 - Never force or badger anyone into climbing a ladder.
 - It could put both them and you at risk.
- **Once you've determined that you and your ladder are in good condition, and that the area you'll be working in is safe, read the manufacturer's instructions to determine if there are any special precautions you should take.**
 - Then it's "time to climb".
- **First, get a good grip on the ladder.**
 - Make sure that your shoes, hands and the rungs of the ladder are all dry, and free of oil or other slippery substances.
- **When possible, use the "buddy system," and have a coworker hold the bottom of the ladder so it won't slip.**
 - They can also prevent anyone from bumping into the ladder while you're standing on it.
- **If you are alone on the job, tie the top of the ladder off to something that is fixed and stable.**
 - Set up "hazard signs" to keep people clear.

- **When you're climbing follow the "3-Point Rule".**
 - Keep two hands and a foot or one hand and two feet in contact with the ladder at all times.
- **Always face the front of the ladder, and never rush.**
 - Don't try to slide down or jump off when you are finished.
- **To avoid falling, you need to keep your weight centered between the ladder's rails.**
 - Try using the "Belt Buckle Rule".
 - Keep your belt buckle between the rails of the ladder at all times.
- **You shouldn't lean back when you're on a ladder either.**
 - Stay close, so your weight is in line with the rails.
- **Standing too close to the top of a ladder is something else you should avoid.**
 - It can cause you to lose your balance and hit the ground hard!
 - In general, it's a good idea not to stand on the top 4 rungs of an extension ladder or the top 2 steps of a stepladder.
 - If the ladder you have is too short to follow these guidelines, get a bigger one.
 - Don't take chances with your safety!
- **You should never have more than one person on a ladder at a time.**
 - Another person's movements can upset your balance.
 - And the extra weight and stress can weaken the ladder over time.
- **This also applies to stepladders, except those that are built to carry two people safely.**
 - Never let someone stand on the back of a stepladder to help the person on the front.
- **Trying to hoist tools or materials up with you while you're climbing a ladder can be very dangerous as well.**
 - Wear a tool belt instead.
 - Pull up any other materials that you need after you've reached the top.
- **Fasten containers or tool holders to your ladder to hold things that you need to have quick access to.**

- **Be careful when you're handling your tools and materials while you're "up in the air".**
 - Watch out for people beneath you.
 - Objects that fall may not hurt you, but they can be dangerous to anyone below.
- **Never leave a raised ladder unattended.**
 - Once you're finished with it, store your ladder in a safe, dry place.
- **Sometimes things can go wrong no matter how careful we are.**
 - If an accident does occur, it's important to be prepared.
- **If you fall off a ladder, knowing how to do it “the right way” can prevent a serious injury.**
- **Tense muscles increase the potential for getting hurt, so it's important to relax when you fall.**
 - Absorb the impact by bending your arms and legs.
 - This way they will act as "shock absorbers" when you hit the ground.
 - Rolling in the direction of the fall will “cushion” you even more.
- **If someone falls from a ladder, they could end up with broken bones, a concussion or even damage to their spinal column.**
 - Don't move them unless they are in a very dangerous location.
 - Movement will only make these injuries worse.
- **Instead, call for medical help immediately.**
 - While you wait for it to arrive, monitor the victim's breathing and work to stop any bleeding.
 - In some cases, the victim may also need to be treated for shock.

*** * * SUMMARY * * ***

- **Ladders can be a big help, but if they're not used properly they can also be dangerous.**
- **Pick the right ladder for the job. Make sure it's tall enough and can support the required weight.**
- **Inspect every ladder before you use it and fix or repair any damaged parts. If necessary, get a new ladder!**
- **Set your ladder up on a firm, dry base and the use the "4-to-1" rule to make sure it's at a safe angle.**
- **When using a ladder, secure it firmly, and make sure to use the "3-point" climbing technique.**
- **If a ladder accident does occur, be prepared to act quickly.**
- **Ladders can help us to be more efficient and productive, but if they aren't used correctly, people can be seriously injured. So follow ladder safety procedures at all times... and you'll never be "grounded"!**