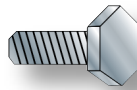
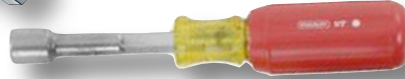


How Hand Tools Are Designed To Make Work Easier

1. Loosening/Tightening a bolt



A. You can use a socket driver

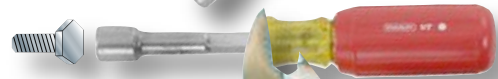


B. How can you increase the torque applied to the bolt?

(1) Use a socket driver with a wider grip



(2) Grip the handle with pliers



(3) Use longer pliers for even more torque



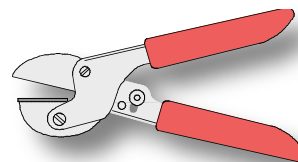
C. How can you increase the torque applied to the bolt?

(1) Use a longer handle socket wrench



2. Cutting a small twig

A. You can use pruning shears



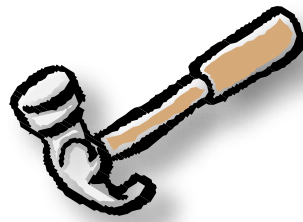
3. Cutting a larger twig/branch

A. You can use lopping shears



4. Pulling out a regular size nail

A. You can use the claw end of a hammer



5. Pulling out a large size nail or spike

A. You can use a crowbar

B. A crowbar lets you use either end, depending on the amount of torque you need. For the crowbar above, removing a nail using the left side produces more torque since the fulcrum is closer to where the resistance is located. The longer distance between the fulcrum and where you apply the effort force, means that the lever is a force multiplier.



6. Tools and Machines that require large turning/twisting forces (torque) generally have long handles to accomplish this.

A. On a drill press to lower the drill bit

B. Bench cutters to slice through metal

