Learn the safety rules for using woodworking tools and what protective equipment is needed. What tools do you need to use with adult supervision?

Safety Rules

- Keep a clean shop (ie. trip hazards)
- Avoid distractions, pay attention (ie. look up to watch TV or visitor can result in cutting yourself)
- Don't rush (ie. that's when accidents/mistakes happen)
- Don't force it (ie. is saw is resisting, sop and see what's wrong)
- Protect yourself - always use proper safety equipment (ie. push stick when working close to a blade)
- Fumes and dust (ie. ensure supply of fresh air/fans)
- Let the tool stop (ie. time for tool to wind down after a cut - spinning blade can do a lot of damage)
- Think before you cut (ie. save fingers and scrap wood)
- Wear appropriate clothing (ie. loose clothing or hair can get caught in tools and cause severe injury)

Protective Equipment

- Safety glasses - impact resistant lenses and side screens to protect against dust and debris created by power tools
- Hearing protection - protect you from long-term hearing loss when working with loud power tools
- Respirator and face masks - should be used when using tools that can generate a lot of dust ie. sander to keep fine particles from entering your lungs and a respirator should be used when spraying varnish or paint to protect you from any harmful effects of using these chemicals
- Face shield - protect your facing from flying chips of wood when using a tool like a lathe
- Proper clothing - never wear loose fitting clothing because they could become entangled in a power tool which can be very dangerous
- Gloves - protect from slivers/cuts

Tools needing adult supervision

- All tools! - kids should never us any kind of woodworking tools unsupervised

With an adult for help, use two woodworking tools, one of which you've never used.

Types of tools

- Hammer*
- Wrench*
- Screwdriver*
- Drill
- Plane
- Saw
- Tape measure
- Clamp
- Pliers
- Nails/screws (difference)
- Level
- Awl

Types of wood

- Grain, smell, texture, weight
- Two basic wood grades: **select lumber** is excellent quality for use when appearance and finishing are important and **common lumber** that has defects used for construction and general-purpose projects

Hardwoods

- *Mahogany*: fine grained, reddish brown in color. Very durable and resists swelling, shrinking and warping. Used for quality furniture such as cabinets, boat construction, wood facings and veneers
- *Walnut*: Fine textured, strong, easy to work with and resists shrinking and warping and finishes well. Best use for gunstocks, solid and veneered furniture, novelties, cabinetry and wall paneling

- *Oak*: Strong with good bending qualities. Is durable and finishes well and resists moisture absorption. Used for furniture, trimming, boat framing, desks and flooring.
- *Maple*: Fine textured. It is strong and hard. Had moderate shrinkage and machines well. Best used in flooring, fine furniture and woodenware such as bowling alleys.
- *Cherry*: Close-grained and resists warping and shrinking. It will redden when exposed to sunlight and ages well. Used in cabinet making, boat trim, novelties, solid furniture handles and turned projects.
- *Rosewood*: Very hard and has a dark reddish brown color. It is fragrant and close grained. It is hard to work and takes high polish. Use in musical instruments, piano cases, tool handles, art projects, veneers and furniture.
- *Teak*: Hard and durable and resistant to moisture and rot. It resists warping, cracking an decay. Best used in fine furniture, paneling, shipbuilding, doors, window framing, flooring and general construction

<u>Softwoods</u>

- *Pine*: It has uniform texture, works easy and finishes well. It resists shrinkage, swelling and warping. Used in house construction, paneling and trim. Also used for furniture, molding and boxes.
- *Hemlock*: Light in weight, uniformly textured. It machines well and has low resistance to decay and non-resinous. Used for construction lumber, planks, doors, boards, paneling, sub flooring and crates.
- *Fir*: Works easy and finishes well. Uniform in texture and non-resinous. Has low resistance to decay. Used in furniture, doors, frames, windows, plywood, veneer, general millwork and interior trim.
- *Redwood*: Light in weight, durable and easy to work. Has a natural resistance to decay. Used in outdoor furniture, fencing, house siding, interior finishing, veneering and paneling.

- *Spruce*: Strong and hard. Finishes well and has low resistance to decay. Has moderate shrinkage and light in weight. Used for masts and spars for ships, aircrafts, crates, boxes, general millwork and ladders.
- *Cedar*: Fresh sweet odour and reddish in colour. Easy to work and uniform in texture and is resistant to decay. Used in chest making, closet lining, shingles, posts, dock planks, novelties and Venetian blinds.

<u>Engineered woods</u>

- *MDF(Medium-Density Fibre Board):* engineered wood product formed by breaking down softwood into wood fibres, combining it with wax and a resin binder and forming panels by applying high temperature and pressure. It is made up of separated fibres, but can be used as a building material similar in application to plywood. It is much more dense than normal particle board.
- *Plywood:* type of engineered board made form thin sheets of wood called plies or wood veneers. The layers are glued together. There are usually an odd number of plies as it makes the board less prone to warping and the grain on the outside surfaces runs in the same direction. The plies are bonded under heat and pressure with strong adhesives.