

## **Blizzard Bag 1**

Wood is a major material for manufacturing. While many items are made of solid wood (i.e. furniture, flooring & trim, bats), there are alternative wood products in use, especially in the construction industry. These include plywood, MDF, & OSB to name a few.



## Plywood



Plywood is a sheet material manufactured from thin layers or "plies" of wood veneer that are glued together with adjacent layers having their wood grain rotated up to 90 degrees to one another. Plywood was designed to compensate for some of the inherent weaknesses in wood products. Each layer of plywood is laid with the grain turned in such a way that it reinforces the weak spots of the other layer. This creates a wood panel that is incredibly strong and durable.

Another advantage of plywood is that it is cheap to make. Because plywood doesn't rely on coming from a single piece of wood, the materials are much easier to gather. Less time and money must be spent on harvesting a single usable sheet of wood from a tree. Because of this, plywood can be created and sold for less money with significantly less wasted wood.

## Medium-density fiberboard

**Medium-density fiberboard (MDF)** is an engineered wood product made by breaking down hardwood or softwood residuals into wood fibers, often in a defibrator, combining it with wax and a resin binder, and forming panels by applying high temperature and pressure. **MDF** is generally denser than plywood.



## Oriented strand board

Oriented strand board (OSB) is an engineered wood particle board formed by adding adhesives and then compressing layers of wood strands (flakes) in specific orientations.



While other types of wood sheathing typically feature a smooth surface, this type features a rough surface made up of hundreds of wood chips. While these scraps of wood may appear randomly placed, each piece of wood is actually aligned to maximize the strength of the panel. Manufacturers combine multiple layers of these wood chips to create a board up to 1 inch (2.54 cm) thick. The layers are then subjected to high levels of heat and pressure and joined together with resin to create a secure bond.

Builders use oriented strand board to construct wood-framed homes and commercial buildings. These boards serve as sheathing to support lumber framed walls and roofs, and also serve as a base for interior or exterior finishes. For example, builders may fasten siding or roof tiles to the boards, or even apply stucco or plaster over the surface of the OSB. When installed over top of floor joists, this type of material can also serve as a support base for flooring.

## INVESTIGATE:

1. How is wood classified?
2. How much time elapses from when the tree is cut down to when it is a suitable board for furniture making? Explain.
3. Name 3 kinds of trees & tell what products might be made from them.