INK JET PRINTERS
Liquid ink-jet printers propel fine droplets of liquid ink toward the surface of paper. A cartridge of ink is attached to a print head with up to hundreds of nozzles, each thinner than a human hair. The number of nozzles and the size of each determines the printer’s resolution. As the print head moves across the paper, a digital signal from the computer tells each nozzle when to propel a drop of ink onto the paper. On some printers, this is done with mechanical vibrations. Piezoelectric crystals change shape when a voltage is applied to them and force ink through the nozzles. Each pixel in the image can be made up of a number of tiny drops of ink. The smaller the droplets, and the more of them, the richer and deeper the colors should be. Typically, ink jet printer hold two ink cartridges—one with black ink and one with color inks (cyan, yellow, and magenta). Some hold four cartridges with a different cartridge for each color.

LASER PRINTERS
Laser printers use a photosensitive drum that picks up an electrostatic charge wherever the laser beam hits it. The charged areas then pick up toner and transfer the toner to paper. When most people refer to laser printers, they actually mean “laser-class printers.” Some of the subcategories within laser printers use notably different technologies. The thing they all have in common, however, is that even the slowest models print faster than most ink jet printers. As a general rule, laser printers have crisper lines and edges than ink jets do for text and graphics, but they don't match ink jets for photo quality. This category includes LED (light-emitting diode) and LCD (liquid crystal display) printers. There are 6 stages in the Image Formation Process: (1) Cleaning; (2) Conditioning; (3) Writing; (4) Developing; (5) Transferring; and (6) Fusing.

SOLID-INK PRINTERS
These printers start with a block of ink—which they either spray directly on a page as an ink jet printer would or on a drum that rolls against a piece of paper similar to an offset printing press. Solid ink printers use solid wax ink sticks in a "phase-change" process. They work by liquefying wax ink sticks into reservoirs, and then squirting the ink onto a transfer drum, from where it's cold-fused onto the paper in a single pass. Once warmed up, thermal wax devices should not be moved, otherwise wax damage may cause damage. They are intended to be left switched on in a secure area and shared over a network.

DOT MATRIX PRINTERS
Dot Matrix refers to the way the printer creates characters or images on paper. This is done by several tiny pins, aligned in a column, striking an ink ribbon positioned between the pins and the paper, creating dots on the paper. Characters are composed of patterns of these dots by moving the printhead laterally across the page in very small increments. The pins, contained in the printhead, are about one inch long and are driven by several hammers which force each pin into contact with the ink ribbon (and paper) at a certain time. The force on these hammers comes from the magnetic pull of small wire coils (solenoids) which are energized at a particular time, depending on the character to be printed. Timing of the signals sent to the solenoids is programmed into the printer for each character, and translated from information sent by the computer about which characters to print.

THERMAL PRINTERS
These printers use special heat sensitive paper and a heat head which cause chemicals on the paper to darken to form the print characters. There is no ink but these prints must use special paper, which has a relatively short life once used. This technology is used by cash register printers, label printers and facsimile machines.