



TOOLS

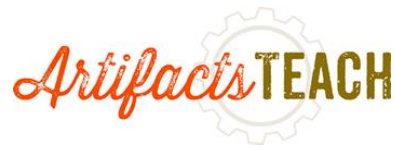
A tool is an implement or simple device designed to make completing a task or performing a particular kind of work easier. Tools are an integral part of our daily lives. They come in all shapes and sizes and are used to achieve a variety of goals. A wrench helps in repairing cars or building and maintaining machinery. Hammers and screwdrivers are common carpenter's tools. Pencils help us write. Rulers help us measure. Hair dryers, microscopes, welders, pulleys, computers and cell phones are all tools used everyday to help accomplish tasks more easily. Tools have been around for a very long time.

Anthropologists believe that our earliest ancestors began using stones for tools about 3.4 million years ago. Scientists have found human-made tools that date as far back as 2.5 million years. Most of these early tools helped their owners cut meat for food or cure hides, or improved their ability to hunt, or gather food, make clothing to keep warm or provide defense in case of attack. In each case, these ancient tools helped to make a task easier.

Because humans make tools for specific purposes, tools evolved as people and societies evolved. As human society became more complex, the number, variety and application of tools also increased. Metal replaced stone. Copper tools gave way to bronze; bronze to iron; iron to steel. People began making tools specifically for agricultural, industrial and home use. Hoes, scythes, pulleys, levers, spoons, and brooms became common items. For larger, more complex tasks, humans built machines to help get the job done. Looms replaced drop spindles. Typewriters replaced quill pens. Cell phones replaced landlines. Each of these machines is a tool in itself, requires other tools for its construction, and necessitates special tools for its maintenance and repair. This system of designing, modifying and using tools is known as technology.

Because we are constantly designing, applying and evaluating the implements we use, tools are a reflection of human ingenuity and problem-solving ability. For the last 2.5 million years, humans have been creating tools to solve problems. For the Ancient Pueblo peoples, who lived in our area, hunting large animals was a dangerous project. To minimize the danger and maximize their chances for success, they developed the atlatl, a device that allowed them to launch a spear further and with greater force. Later, they developed bows and arrows, which provided not only greater force and distance, but also more opportunities (many arrows instead of one spear) to down their prey. These ancient peoples encountered challenges and invented the tools to overcome them. Tools, then, can teach us many lessons about a society, especially one that left us no written records.

Archeologists, anthropologists and historians analyze tools in order to discover how people lived, what materials they had available for use, what challenges they may have faced and how they overcame those challenges and survived, or how they failed to meet



the challenges and either moved away, or became extinct. As the complexity of tools has evolved, tools have acquired two important characteristics: “substitution capability,” and “repurposing ability.” In the first instance, because some tools share a functional characteristic with others, they can be substituted for each other. This can occur by design or through human ingenuity. For instance, by design, a carpenter’s level may contain inch or millimeter measures that allow the level to be used as a ruler. An example of substitution through human ingenuity would be when we use a screwdriver or a hammer to break up a bag of ice at a barbeque. Substitution generally applies only in the case of more simple tools. It would be very difficult to replace a complex machine that performs multiple tasks with anything other than another machine of the same type and function.

Repurposing is the act of rechanneling the use of a tool into another tool. Most often, repurposing is accomplished using items considered to be junk. Cutting old 50-gallon oil drums in half and using them as barbeque grills is a good example of repurposing. Shredding old tires and using them to surface running trails or as insulation for a home are also good examples of repurposing of one tool into another. Repurposing most often occurs when access to a replacement item is either too expensive or too difficult to obtain. While repurposing has been around as long as civilization, a new field of scholarship has emerged that studies how different societies repurpose older tools to meet modern challenges.

Tools can be simple or complex. They help us to achieve goals, and are designed to make work easier. Tools are such common items, that we often overlook their importance in helping us understand both individuals and entire societies. Tools provide valuable insights to those who are willing to examine them closely for the evidence they contain.