

Did you know: Simple Machines are EVERYWHERE?!

Engineering new ideas with tips from history!



Simple Machines

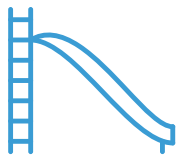
Lever

Has an arm that "pivots" (or turns) against a fulcrum (point the lever turns). Think of the arm end of a hammer.



Inclined Plane

A flat surface (or plane) that is slanted, so it can help move objects across distances.



Pulley

Similar to wheel/axle; rotates a rope or belt to lift heavy objects.



Wedge

Movable inclined plane that uses the edge to push things apart (think of an axe).



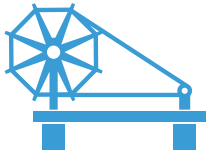
Screw

A kind of inclined plane; easily turns to move itself through solid spaces.



Wheel & Axle

Makes work easier by moving objects across distances.



Everyday Science: First Submarines

British mathematician William Bourne made some of the earliest known plans for a submarine around 1578, but the world's first working submarine prototype was built in the 17th century by Cornelius Drebbel, a Dutch inventor in the employ of British King James I. Drebbel's submarine was a modified rowboat coated in greased leather and manned by a team of oarsmen. In 1620, he tested his prototype in 15 ft of water beneath the River Thames during a demonstration witnessed by the King and thousands of astonished London citizens. No official design plans were ever found of his original prototype, however historians and marine engineers believe it submerged via a collection of bladders or wooden ballast tanks, while others suggest that a sloping bow and a system of weights were used to propel the boat underwater when it was rowed at full speed.

Early submersibles were developed in the 1600s before the first known military submarine was built in 1775. Named the "Turtle"; it held one person and was controlled underwater independently, the first submarine capable of doing so!



Turtle