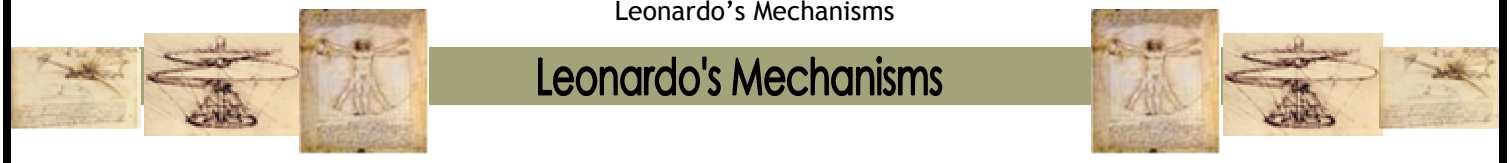


Secondary level Activity Sheet : Leonardo's Mechanisms

In his lifetime, Leonardo could not depend on any 'prime movers' such as gas, electricity or the internal combustion engine. He investigated ways of converting reciprocating motion to rotary motion, a basic need for all machinery. To achieve this he experimented with ratchets, gears, cams, pulleys, cranks and linkages, and racks and pinions. He harnessed wind power, muscle power and power in springs and flywheels.

- Choose a segment of the Exhibition to work from:

  Flight, Hydraulics, Mechanisms, Warfare, Flight

Types of mechanisms: cam, crank, gears, pulley, ratchet & lever

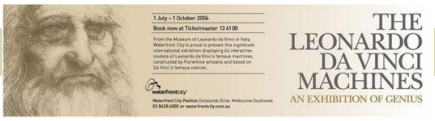
Types of motion: linear, reciprocating, rotary, oscillation, intermittent & irregular

- Find a machine for each of these examples of mechanisms.

Make a sketch of each and indicate using arrows and labels how movement is directed.

Name and date each of the five machines that you sketch, describe what it was designed to do.

What kind of power did Leonardo depend on harnessing for these machines to work?

- How has each of these machines that you have sketched, evolved?
- What kinds of machine are they now and what kind of energy drives them?

More drawings of Leonardo's inventions can be found on website www.leonardo3.net