

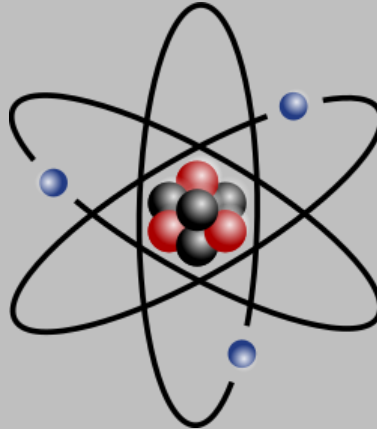


International House Tashkent

Subject: Physics

Department: ES, Course 1

Lesson 13. Simple machine





Simple Machines



- Simple machines are basic machines that are the basis for all other forms of machines.
- There are six types of simple machines:
 - 1. Simple Lever
 - 2. Pulley
 - 3. Wheel and Axle
 - 4. Inclined Plane
 - 5. Wedge
 - 6. Screw



The Lever Family



- All levers have a rigid arm that turns around a point called the fulcrum.
- Levers are divided into three classes depending on the location of the fulcrum, input force, and output force.

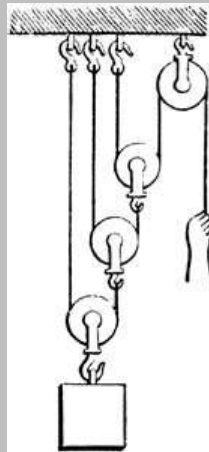
First Class Levers

- The fulcrum is located between the points of application of the input and output forces.
- Example- Claw Hammer



Pulleys

- Pulleys are levers. The middle of the pulley is the fulcrum. The rest of the pulley acts like a first class lever.



Wheel and Axle

- The steering wheel of a car is a lever. It's made of a pulley (wheel) attached to a shaft (axle).





Inclined Plane Family



- Pushing an object up an inclined plane requires less input force than lifting the same object does.
- Pushing an object up a long gradual ramp requires less force than pushing up a short steep ramp.



Wedge

- A wedge turns a downward force into two forces directed out to the sides.
- An ax blade or a wedge pushes through and breaks apart the wood.



Screw

- A screw is an inclined plane wrapped around a cylinder.
- Tightening a screw with threads requires small force to act over a long distance.

