

7.6.h

Students know how to compare joints in the body (wrist, shoulder, thigh) with structures used in machines and simple devices (hinge, ball-and-socket, and sliding joints.)

Many of the body's movable joints are actually fulcrums. The joints in the body act as pivot points for the bones. The bones act as levers, and muscle provide the force.

Lever make work easier.

Six Simple Machines

Lever

Wheel and Axle

Pulley

Inclined Plane

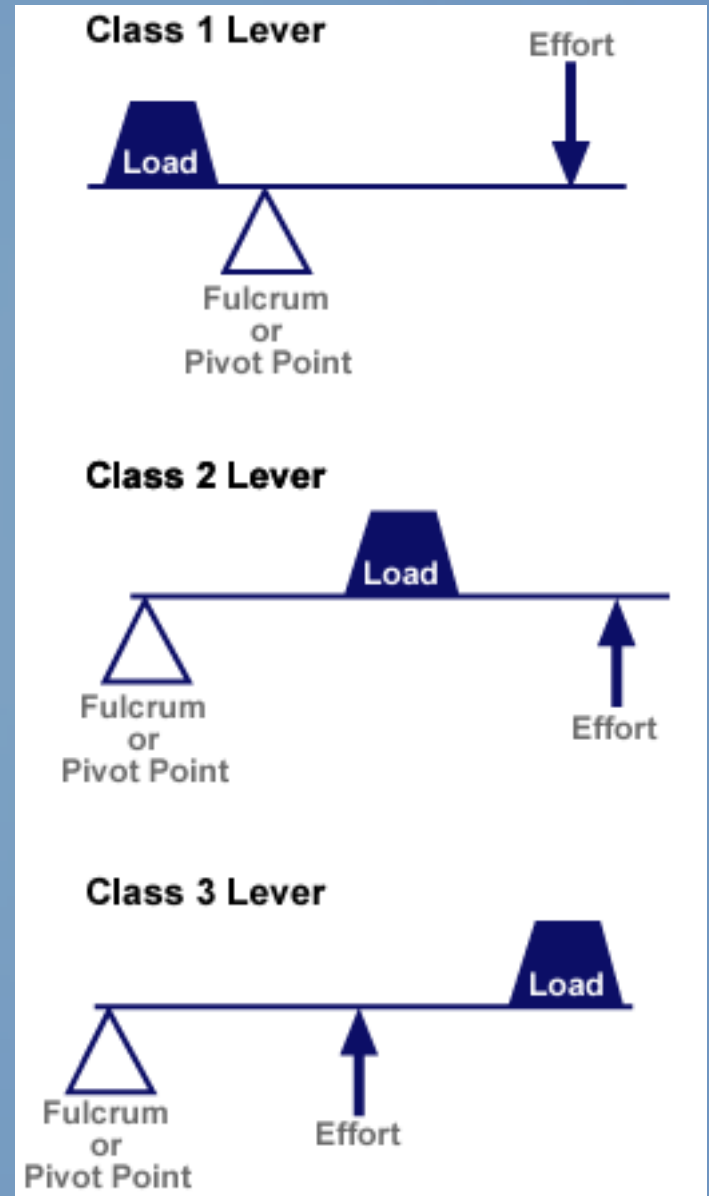
Wedge

Screw

Levers


A **lever** is a rigid rod that is free to rotate around a fixed pivot point.

The fixed point the lever rotates around is called the **fulcrum**.



Notes on Levers

Types of
levers

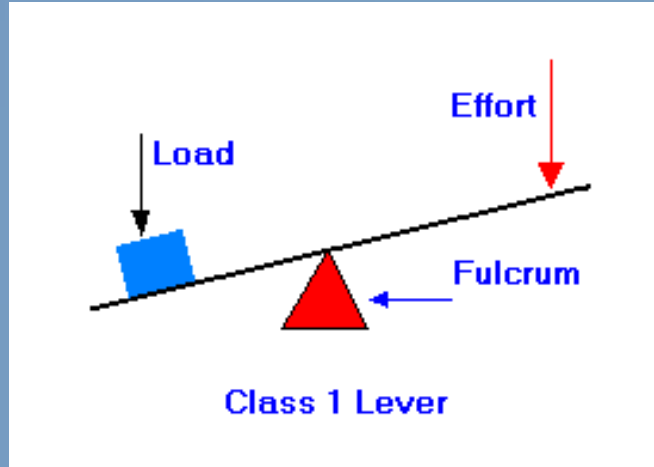
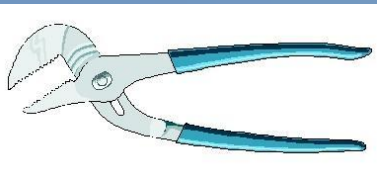


1st class, 2nd class,
and 3rd class

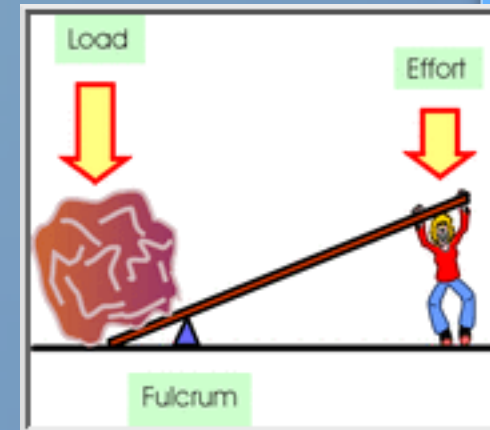
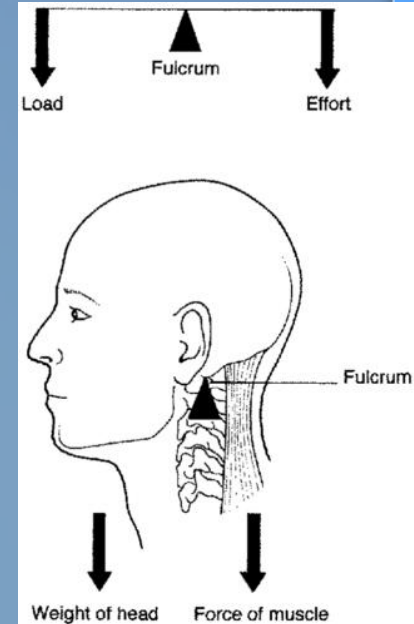
Notes on Levers

1st Class Lever

Draw the
example
of the
lever

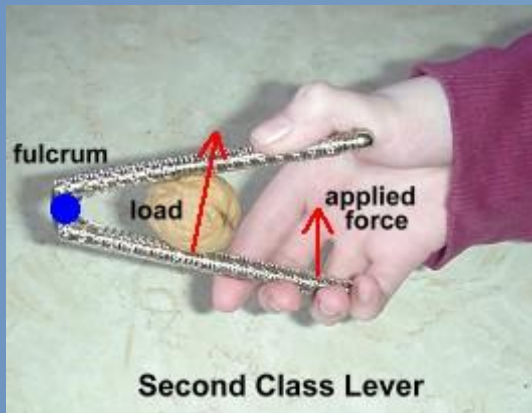


The fulcrum is in between the effort and the load. Examples are teeter totter, scissors, pliers, and moving a large boulder.

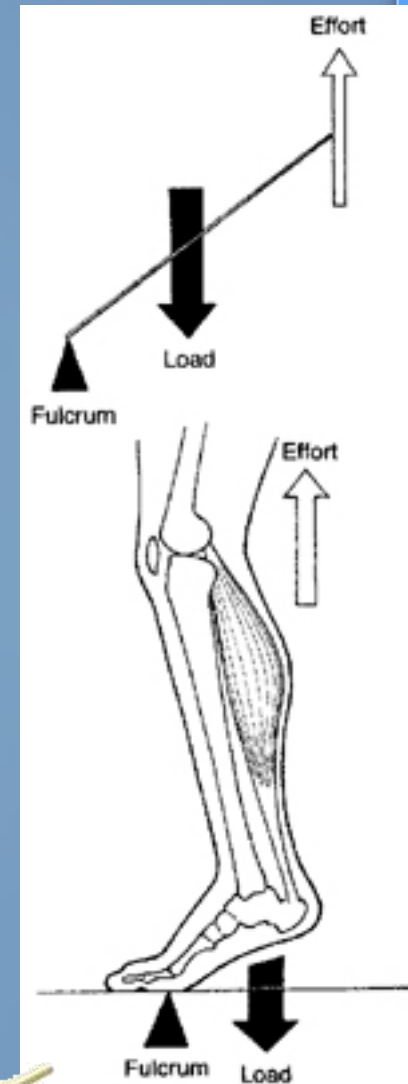
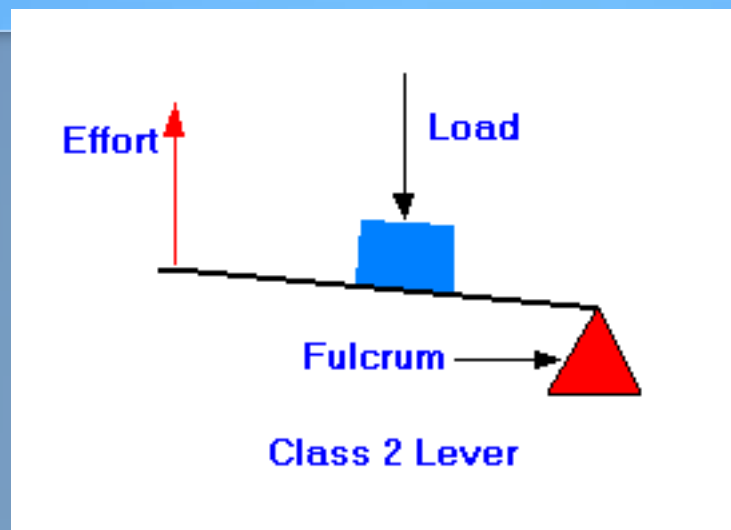


2nd Class Lever

Draw
the
picture

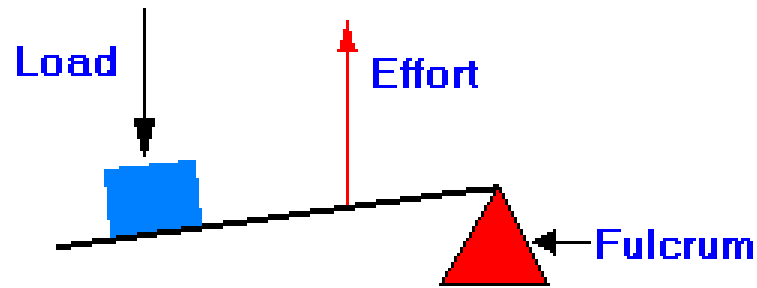


In a 2nd class lever the load is in between the effort and the fulcrum. Examples are a wheel barrel, a nut cracker, or standing on the ball of your foot.



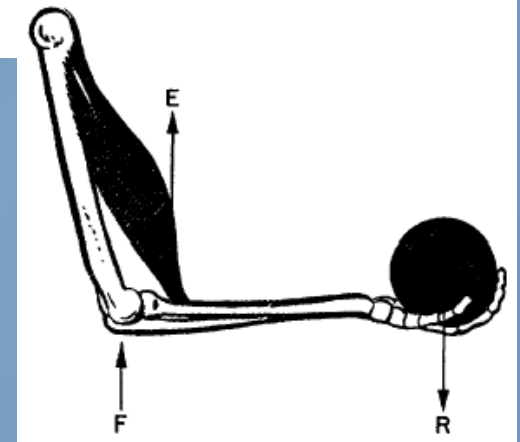
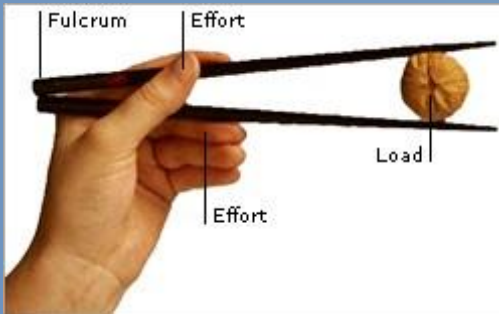
3rd Class Levers

Draw the picture



Class 3 Lever

In a 3rd class lever the effort is between the load and the fulcrum. Examples moving your arm, tweezers, fishing pole, or swinging a bat.



With your elbow partner, answer these two questions. Start with the person who is the tallest.

1. What are the three classes of levers?

1st, 2nd, and 3rd class levers

2. Give an example of each type of lever.

**1st class –
teeter totter**

**2nd class –
wheel barrel**

**3rd class –
fishing pole**