

SIMPLE MACHINES

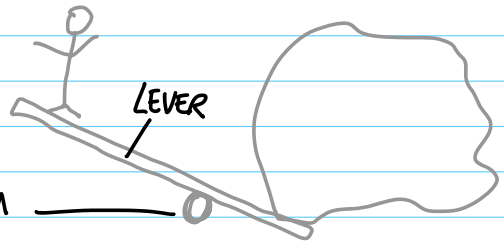
Simple Machine - A TOOL/DEVICE MADE UP OF ONE BASIC MACHINE THAT HAS LITTLE OR NO MOVEMENT.

6 **Simple Machines:** WHEEL/AXLE, PULLEY, LEVER, WEDGE, INCLINED PLANE, SCREW

LEVER - RIGID BAR/PLANK THAT ROTATES AROUND FIXED POINT called FULCRUM/PIVOT

→ 3 TYPES of LEVERS

1st CLASS $H \downarrow$ L Δ FULCRUM



2nd CLASS $H \uparrow$ L Δ
- LOAD BETWEEN FULCRUM & EFFORT

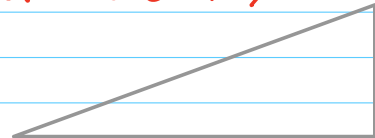
+ MOVE HEAVIER LOAD THAN OTHERWISE POSSIBLE

3rd CLASS L $H \uparrow$ Δ
- EFFORT BETWEEN LOAD & FULCRUM

- YOU MOVE FARTHER THAN LOAD

INCLINED PLANE - A SLOPE OR RAMP THAT REDUCES AMOUNT OF FORCE NEEDED TO MOVE SOMETHING.

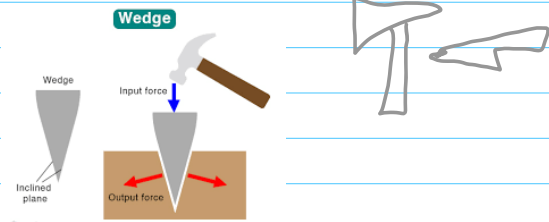
- + MOVE LRG OBJECTS w/ LESS FORCE
- MUST EXERT FORCE OVER LRG DISTANCE



WEDGE - SAME SHAPE AS INCLINED PLANE BUT USED DIFFERENTLY.
OFTEN FORCED INTO OBJECTS - CAN ONLY BE USED IN
1 DIRECTION

+ CAN INCREASE THE FORCE YOU APPLY TO OBJECT

- NEED TO MOVE GREATER DISTANCE INTO OBJECT THAN THE SPLIT IT CAUSES.

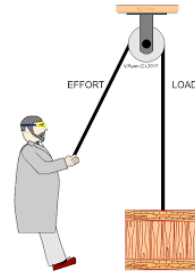


PULLEY - A WIRE/ROPE/CABLE MOVING ON GROOVED WHEEL.
CAN BE COMBINED TO MAKE PULLEY SYSTEM.

USED TO LIFT/MOVE OBJECTS

+ CAN INCREASE THE FORCE YOU USE

- YOU MOVE VERY SLOWLY



SCREW - CYLINDER W/ A GROOVE CUT INTO A SPIRAL ON
OUTSIDE - SAME SHAPE AS WEDGE W/ GROOVES

* USED TO HOLD THINGS TOGETHER OR
SPLIT AN OBJECT *

+ LIFT LARGER LOADS THAN YOU CAN HOLD

- YOU MOVE VERY SLOWLY & A GREATER DISTANCE



WHEEL & AXLE - A COMBO of 2 turning WHEELS THAT ARE ATTACHED TO EACH OTHER @ THEIR CENTRES WHERE ONE CAUSES THE OTHER TO TURN

USED FOR INCREASING SPEED.

+ INCREASE FORCE ON AXLE BY TURNING LARGER WHEEL

- MUST TURN LARGER WHEEL A GREATER DISTANCE

