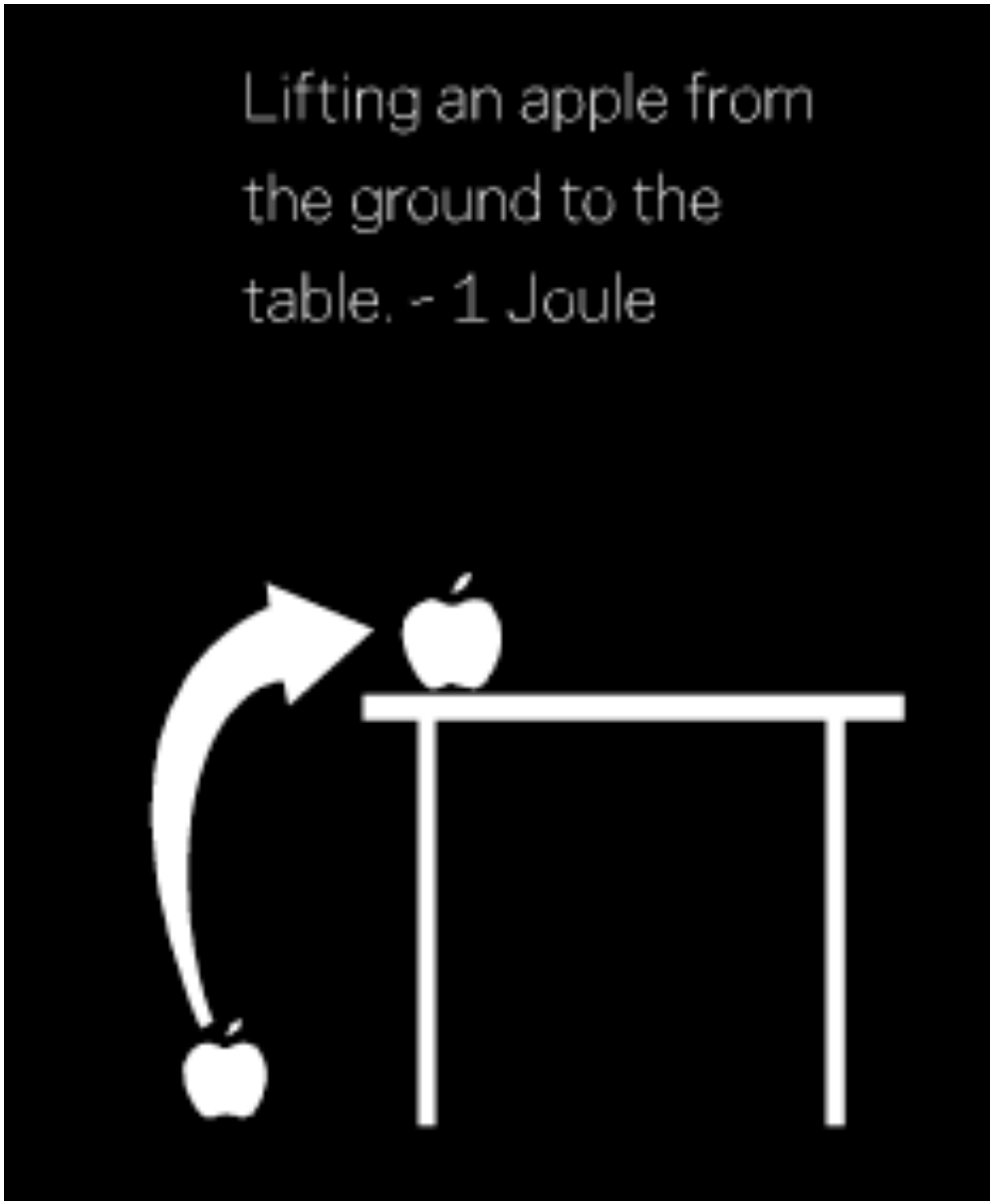
IMPACT LABS NIGERIA

ENERGY

+ CORN SHELLER PROTOTYPING

ENERGY



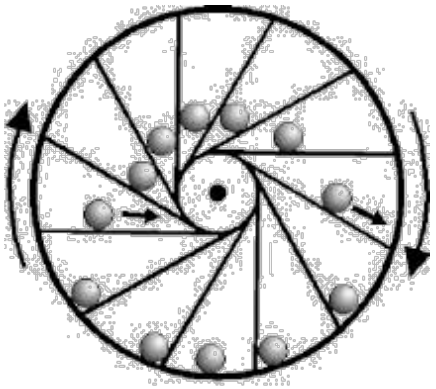
Energy is the universally recognised give-and-take avenue on which we get by.

Food, light, petrol, are instances of energy.

Energy can exist in many forms, but is principally either

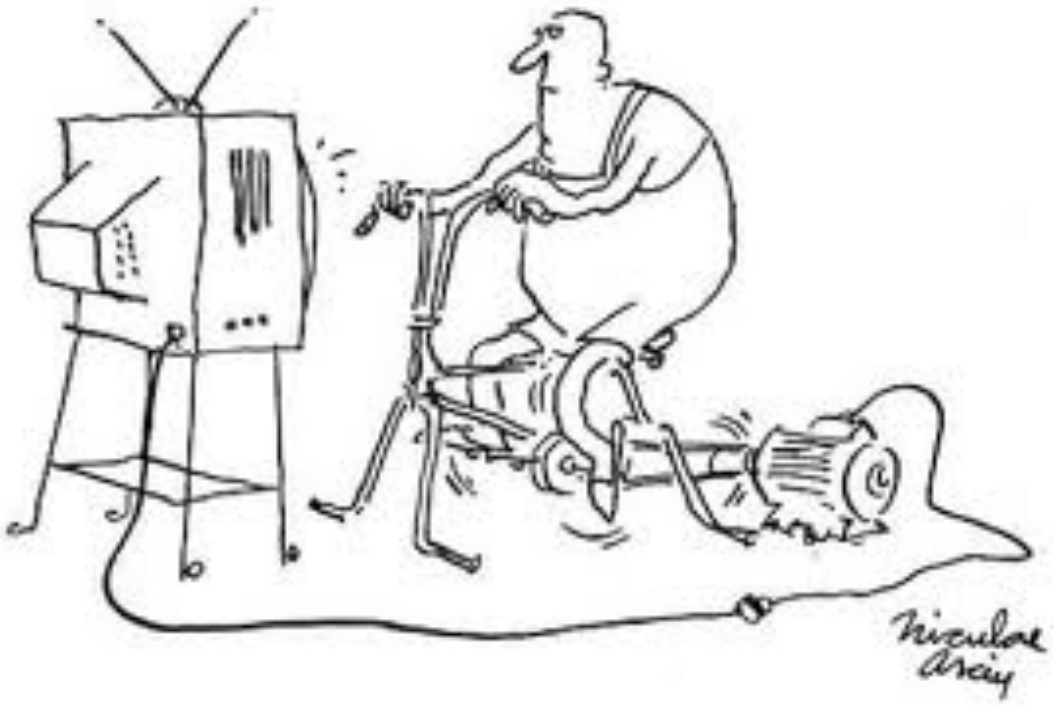
- Chemical energy
- Electrical energy
- Heat energy

First law: The law of conservation of energy shows that we cannot get energy for nothing.



ENERGY EFFICIENCY

The inability to match energy resources correctly with applications wastes energy. By using less than the regular amount of energy needed to do a certain work, energy efficiency helps reduce unnecessary waste.



$2 SOLAR LAMP




Four components:

(1) LED bulb

(2) Switch

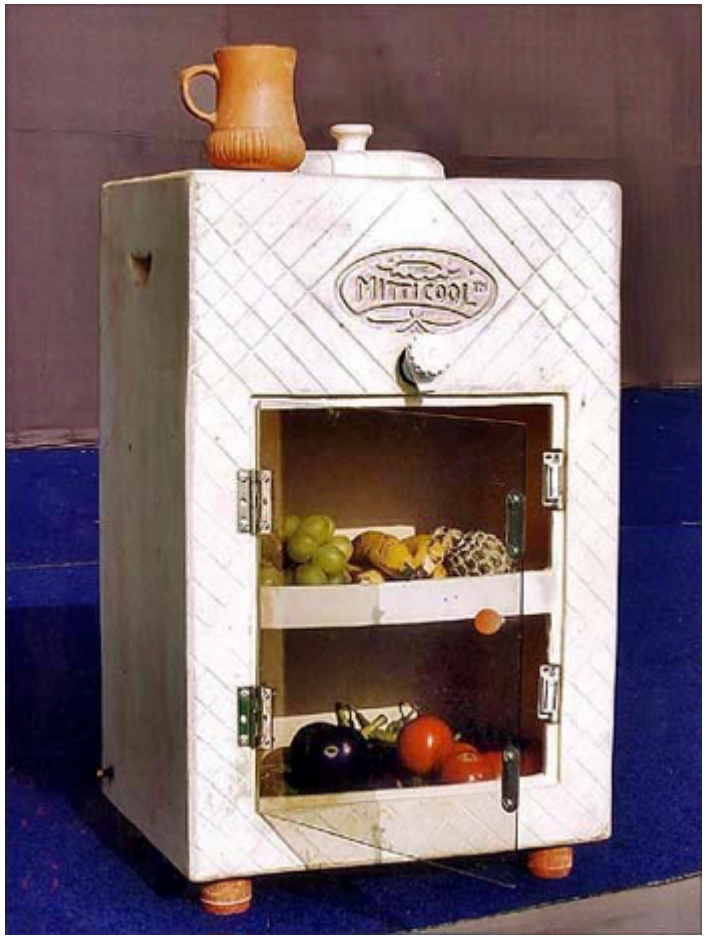
(3) cellphone battery

(4) solar PV

(5) empty transparent bottles

Credit: ledsafari.com

MITTICOOL – HOW DOES IT WORK?



"Mitticool is a natural refrigerator made entirely from clay to store the vegetables and fruits and also for cooling water. It provides naturally coolness to the stored material without requiring any electricity or any other artificial form of energy."

- Mitticool.com

Credit: mitticool.com

NEED - AGRICULTURAL

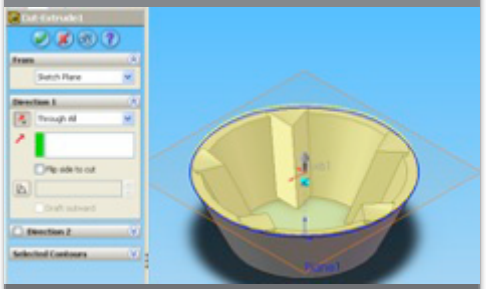
RAPID-PROTOTYPING ACTIVITY: CORN SHELLER

MIT

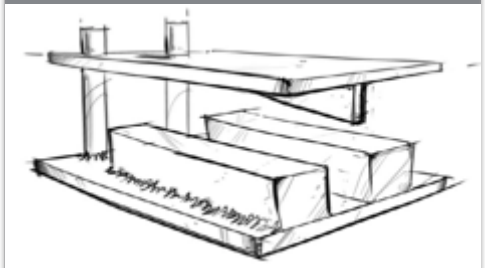
MAKING A CORN SHELLER

CASTING

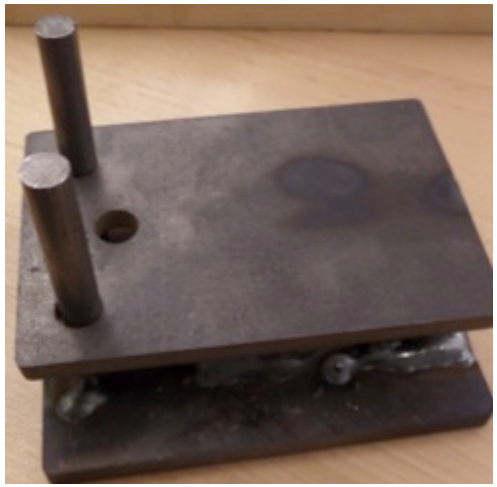
3D-PRINTING

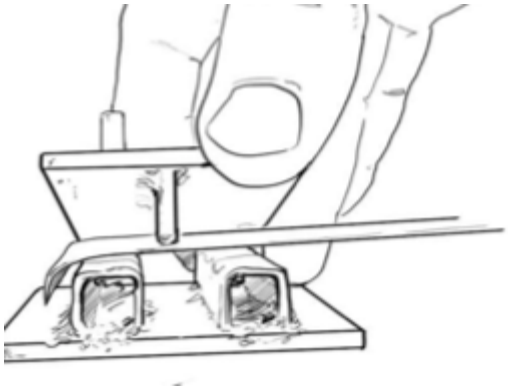


METAL SHAPING

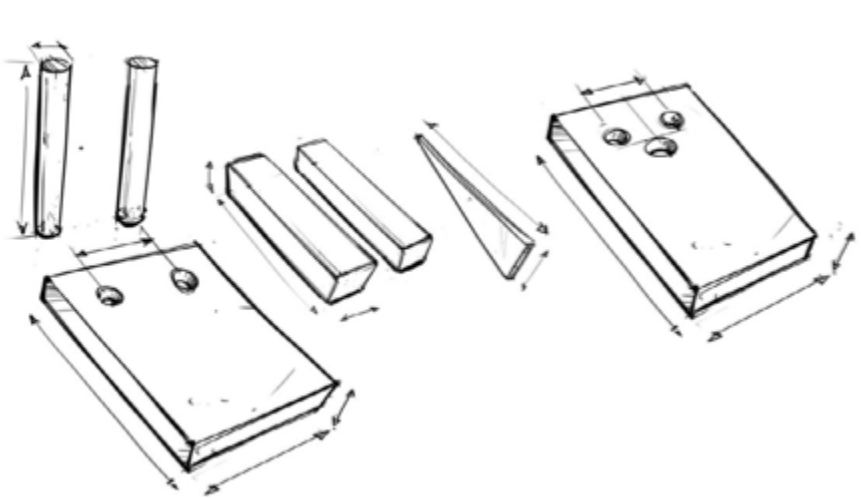


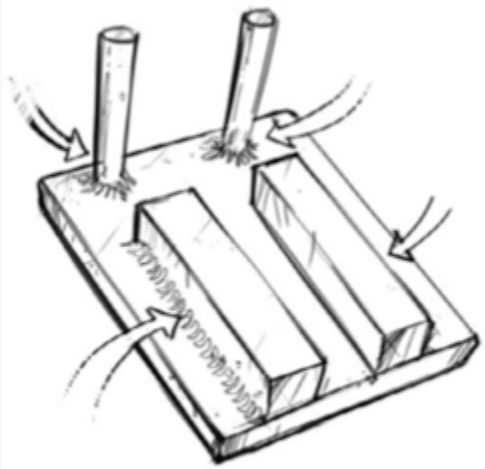
METAL SHAPING

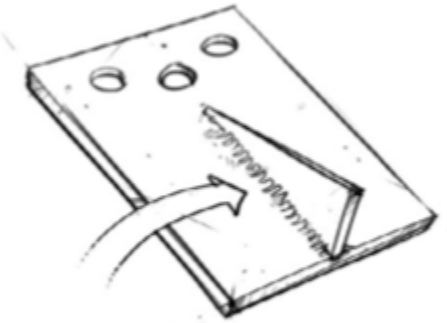


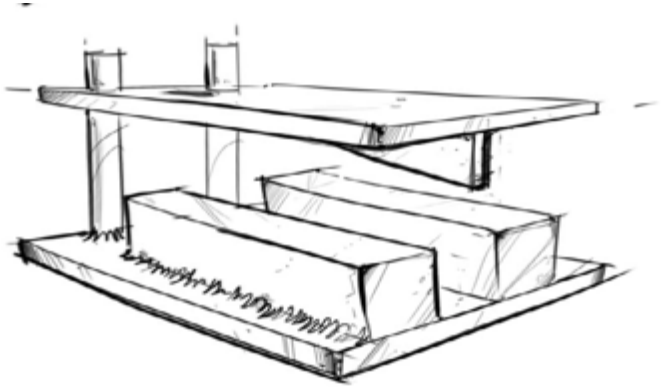


MAKING THE METAL JIG

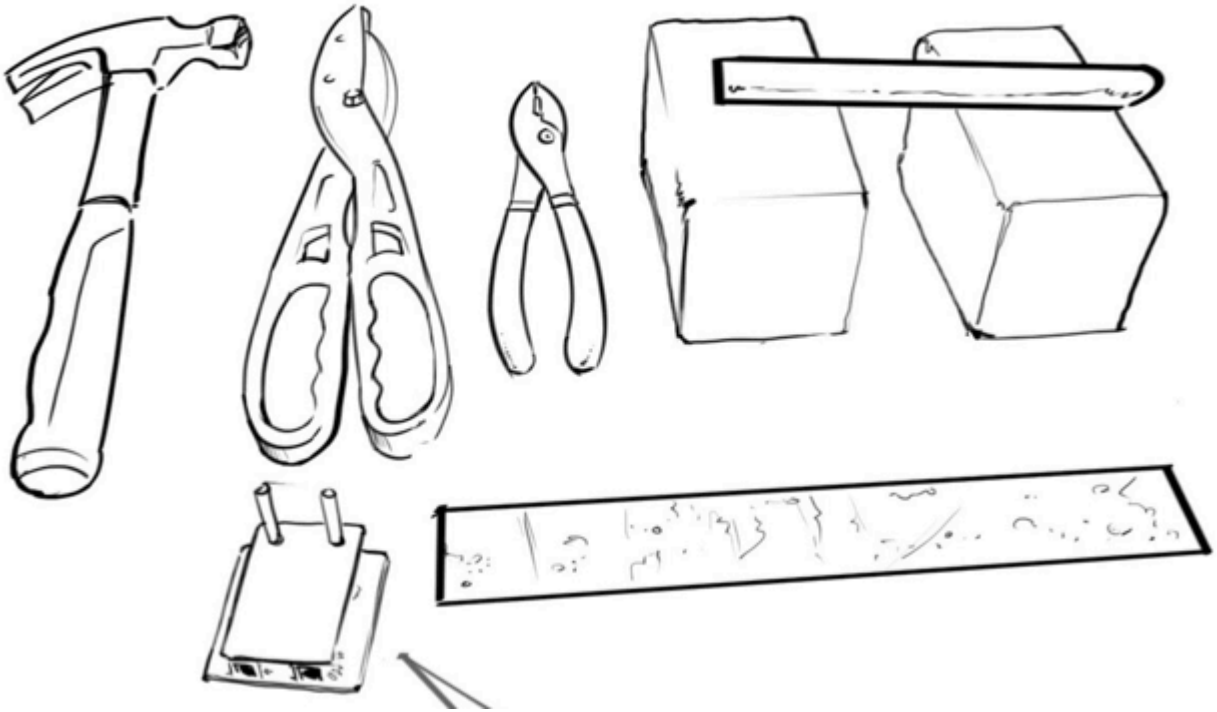




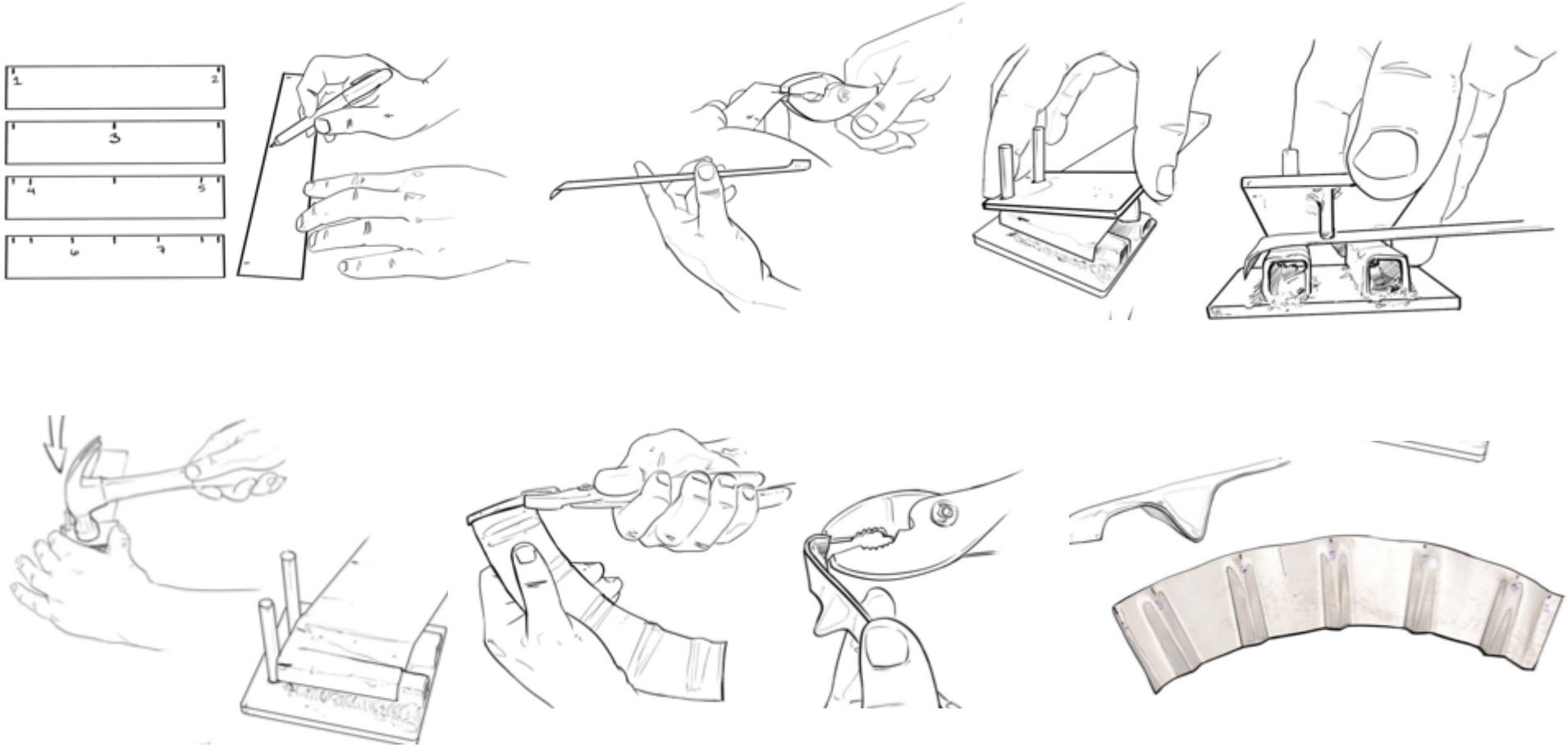




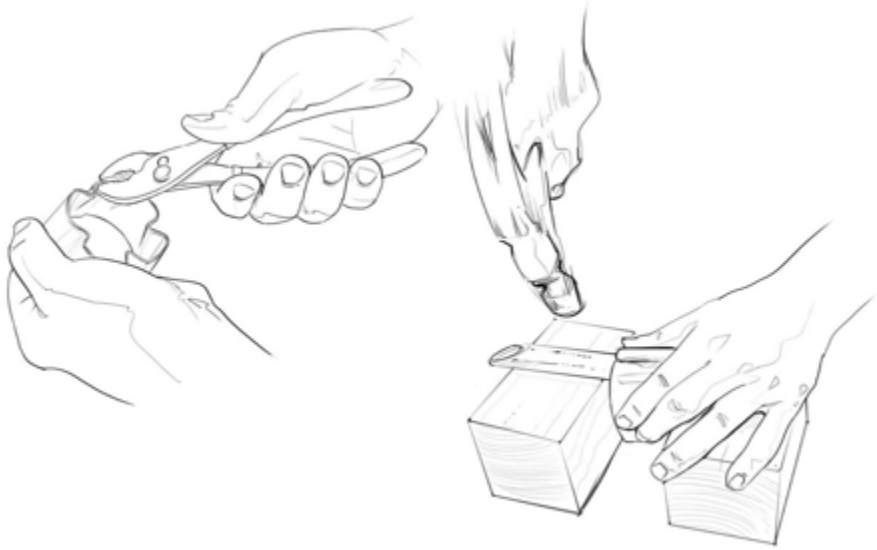
FORMING THE SHELLER



FORMING THE SHELLER (2)



FORMING THE SHELLER (3)



ACTIVITY

Form three groups and discuss:

- The process described for forming the sheller involves many steps and materials. Which of the materials do you think can be replaced with easily obtainable ones? How would these affect the procedures described?
- If you don't have access to welding equipment, how would you modify/ change/redesign the corn-sheller? In other words, can you come up with your own method of corn-shelling?

LET'S BUILD

Now we go to the lab to:

- Get familiar with the tools you will be using during this program
- Build the corn sheller you designed

Discuss with one of the facilitators if we do not have tools or materials you need. You may have to redesign if there is no way for you to make the designed device.