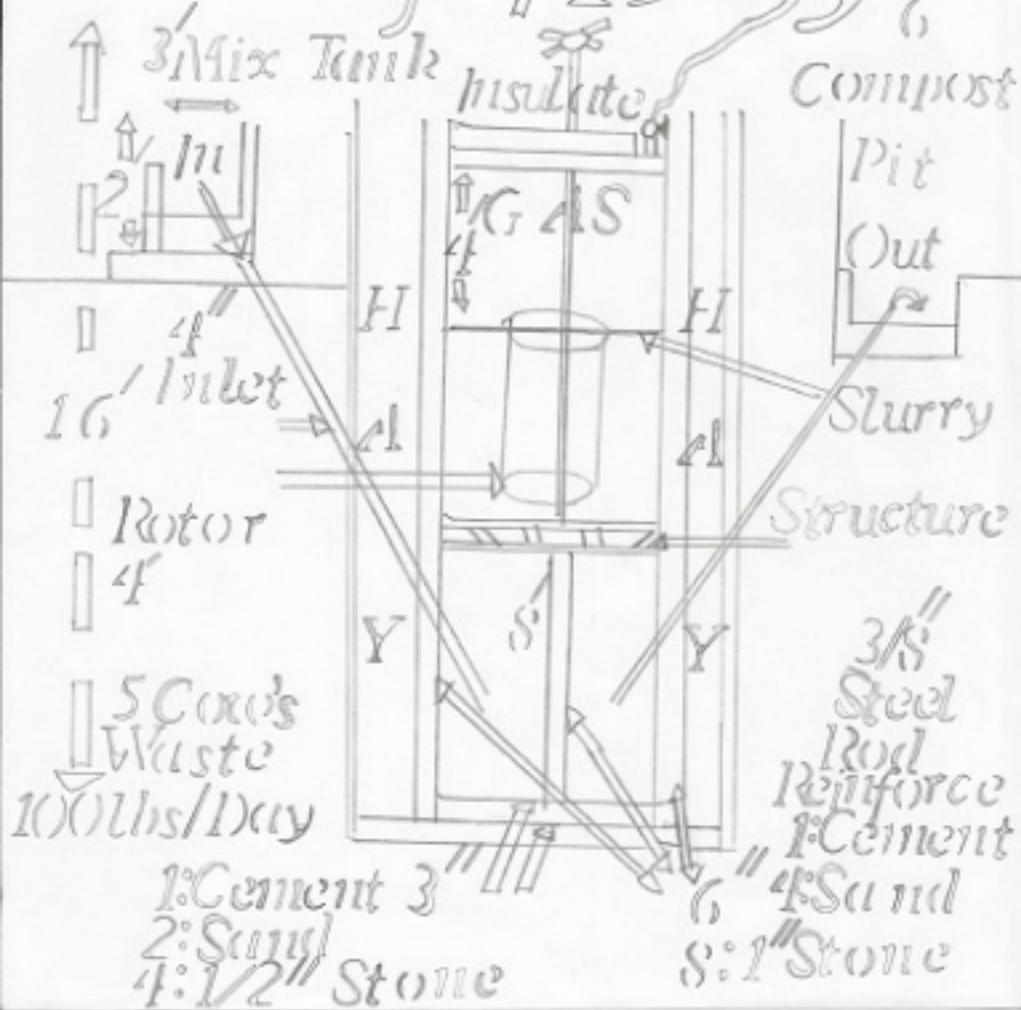


# Methane 1000 cu ft/Day



# FLOUR & MILK

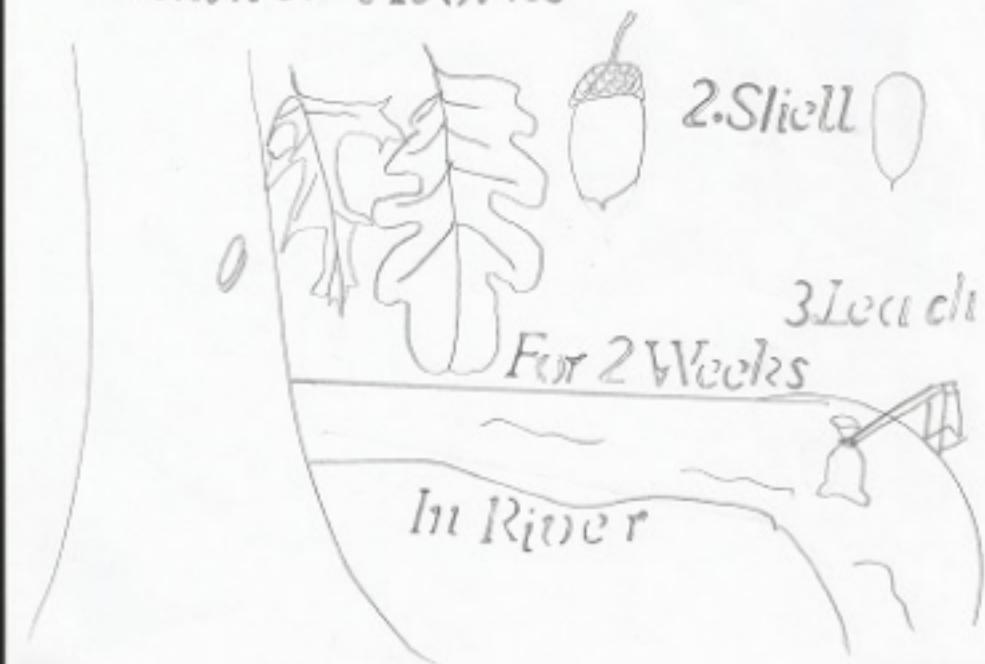
1. Gather acorns



2. Shell



3. Leach  
For 2 Weeks



4. Place Mush in Cheesecloth



and

Squeeze into



Pot

5. Boil Pot // Dry Mush



Drying

Nut Milk

Grind

Flour



# GREENBRAK FLOUR



# SUGAR

Maple

32°

1°10

Bleach to  
Water on Drill

1 $\frac{1}{4}$ "

3"

Spile

3Ft.

Bucket

12": 1 Spile

Boil 10 Gallons  
290° it Cools

into a Block 

# SOAP

1. Boil Ashes 30min



Skim lye

Hardwood

2. Render animal Fat

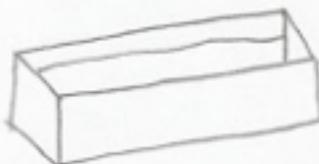
1/4 cup Water: 1 lbs Fat



4 Hours

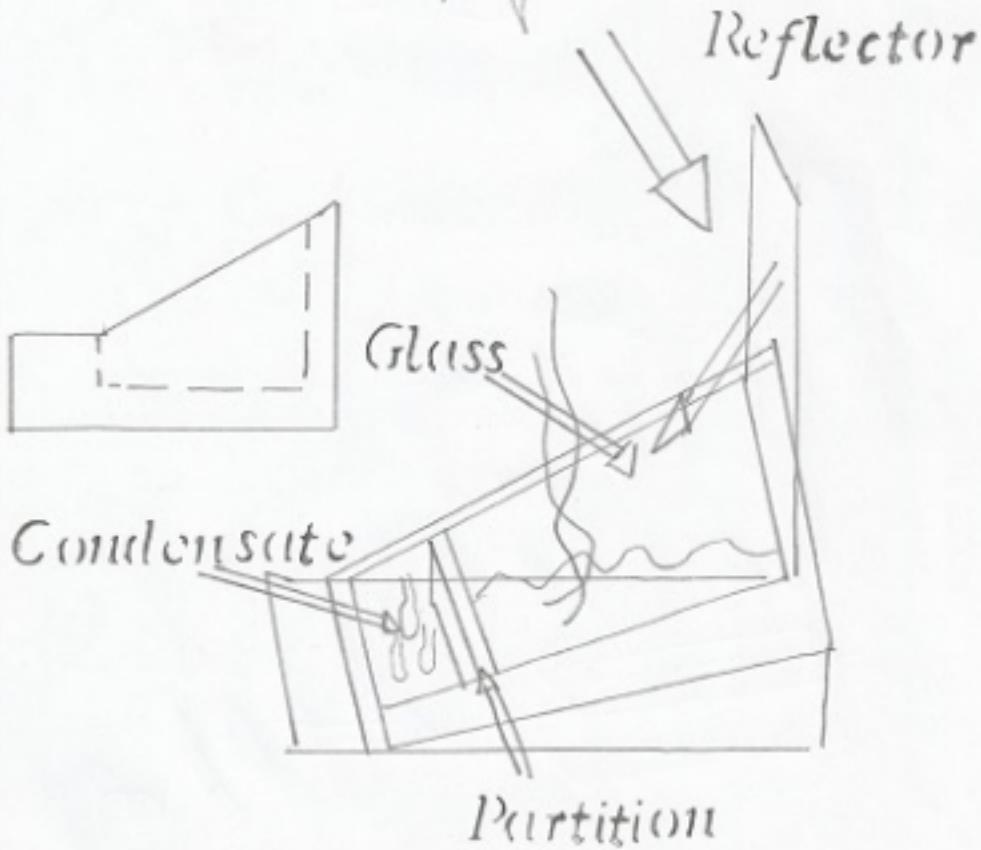
3. Combine /Boil 30min With

Pine Needles



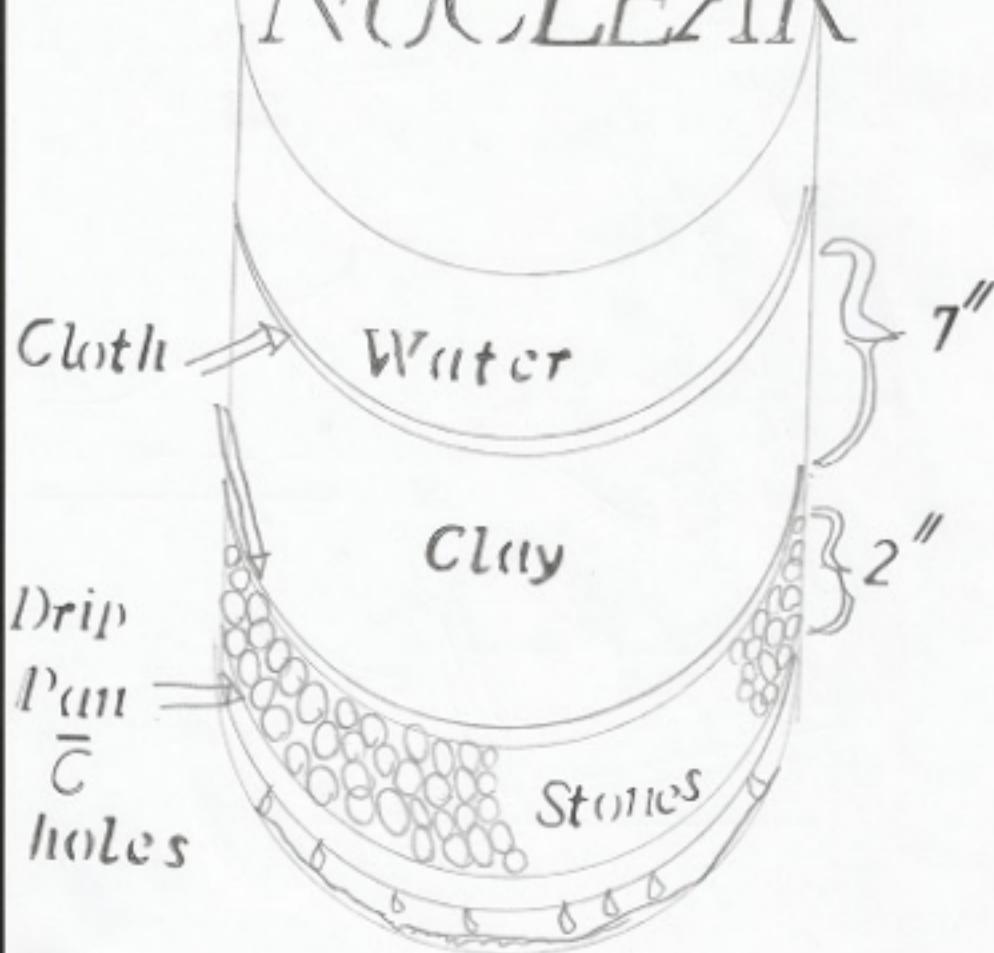
Wood Mould

# SOLAR STILL



# WATER

# FILTER NUCLEAR



WATER

FILTER

RAIN

Cloth

Stones

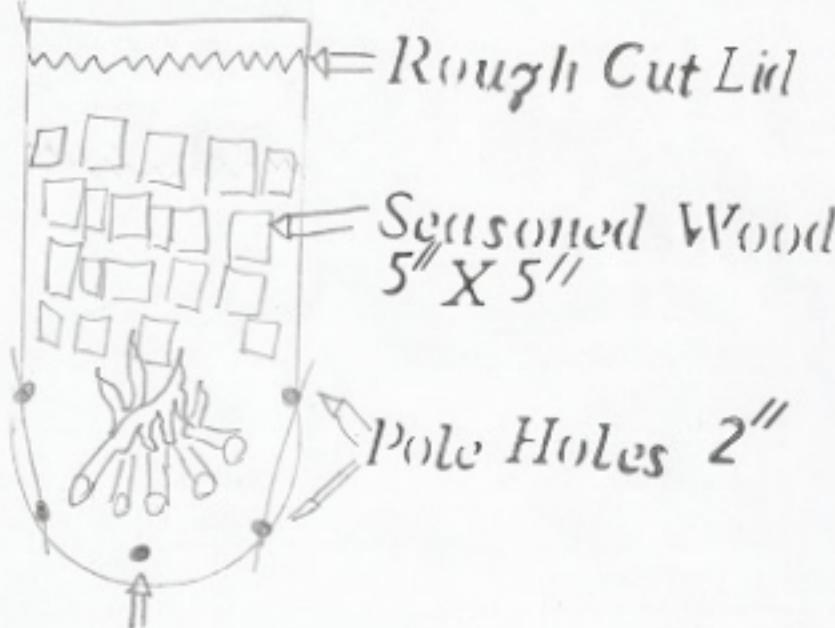
CHARCOAL

Sand

Stones

# CHARCOAL

55 Gallon Drum



Hole To Start Fire

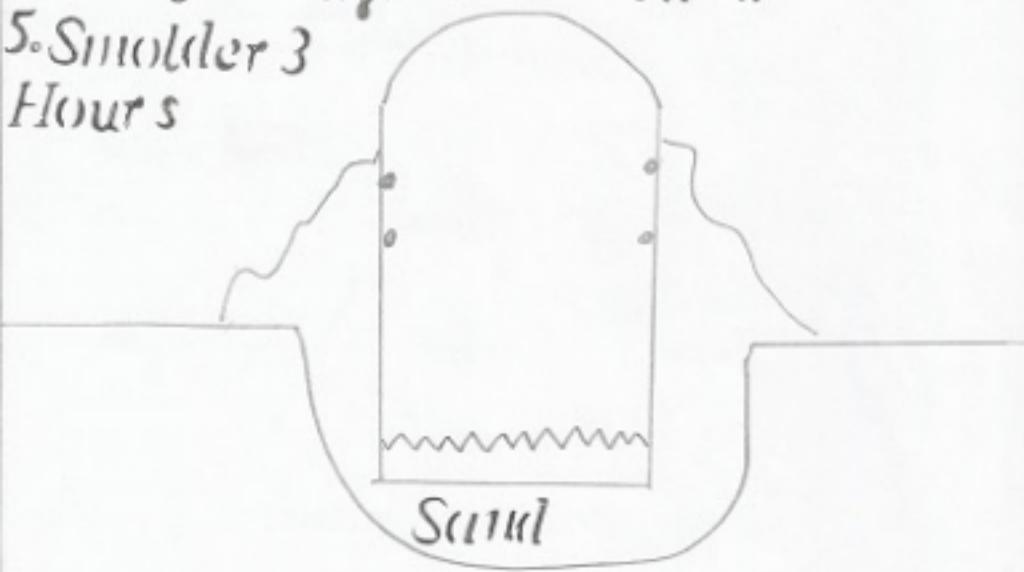
1. Wood alblaze

2. Invert

3. Cover Fire Hole

4. Bury Rough Cut in Sand

5. Smolder 3  
Hours



# STORM GLASS

1. Dissolve 2.5 Grams Each:

Potassium Nitrate (Stump Remover)  
Ammonium Chloride (Tractor Supply,  
Feed Mills, Vet)  
In 33 ml. Distilled Water

2. Dissolve 10 grams Camphor  
In 40 ml. Ethanol (Vodka)

3. Mix Both/Store in Glass Jar



Clear Glass Then  
Clear Weather



Cloudy Means  
Cloudy Day



Dots Mean Fog or  
Humidity



Cloudy/Stars  
Thunderstorm



Large Flakes  
(Overcast



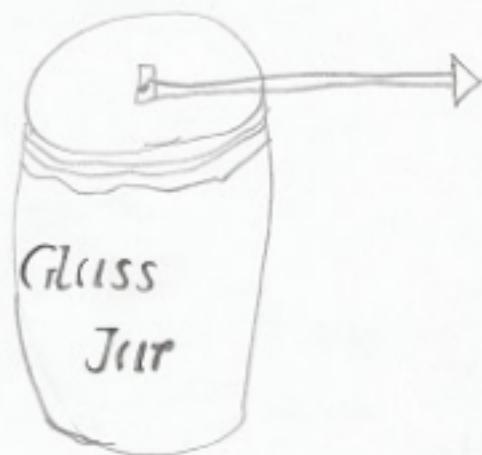
Crystals Bottom  
Frost



Threads Torn Wind

54% accuracy  
1 day in  
advance

# BAROMETER



=↑ Sun/Clear

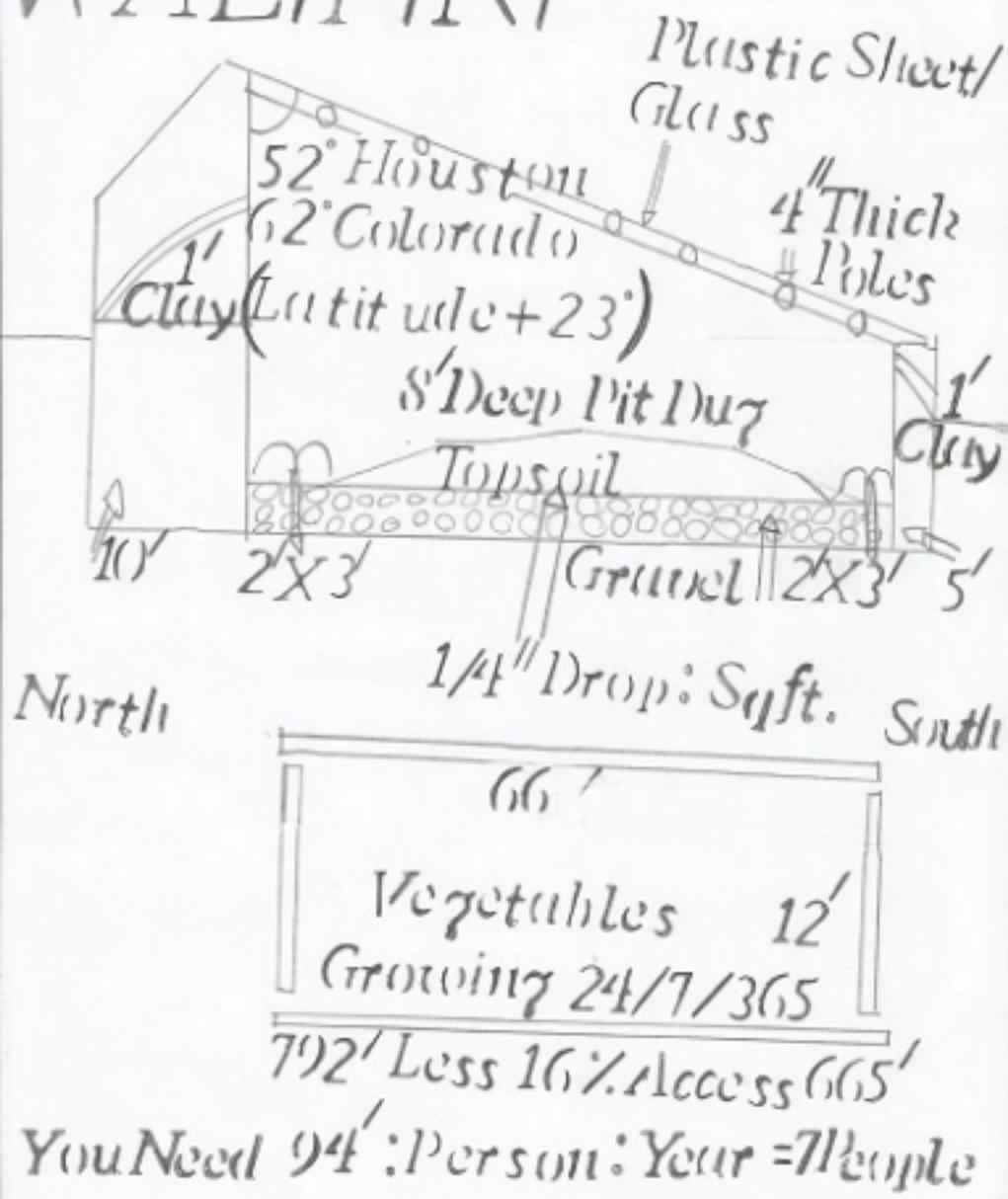
-

=↓ Cloudy/  
Stormy

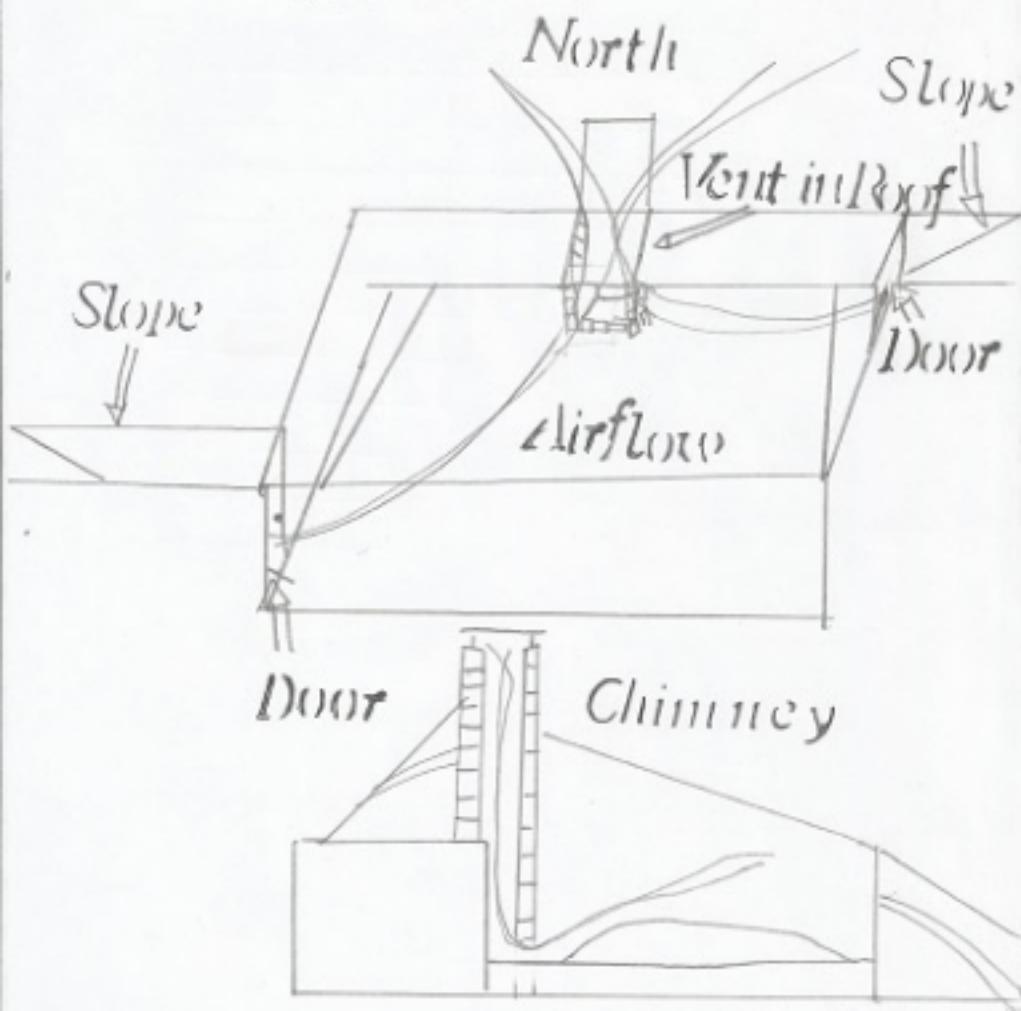
Balloon Cover Held →  
Rubber Band →  
Straw Glued / Taped

90% accurate 1 day out

# WALPINI



# HUMIDITY VENT



# TOOTHPASTE

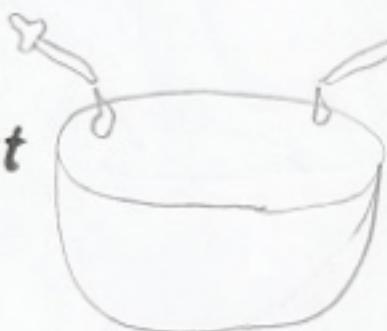
1/4 Cup Baking Soda



1 Tbsp Salt

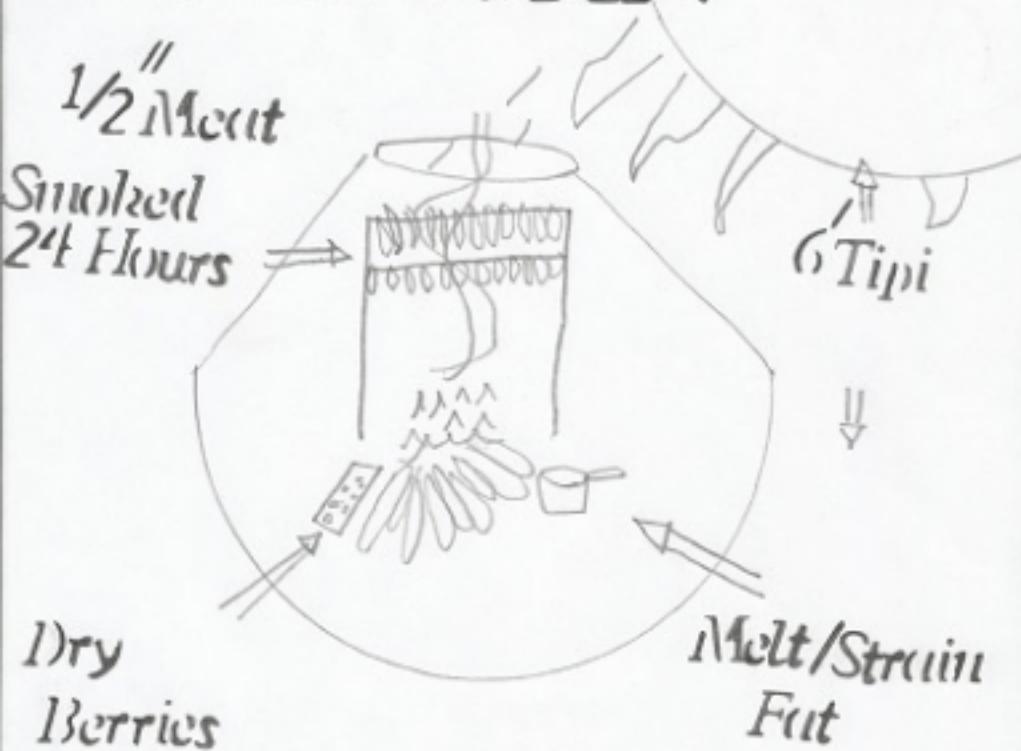
5ml  
Peppermint  
Oil

Enough  
Water  
For  
Paste



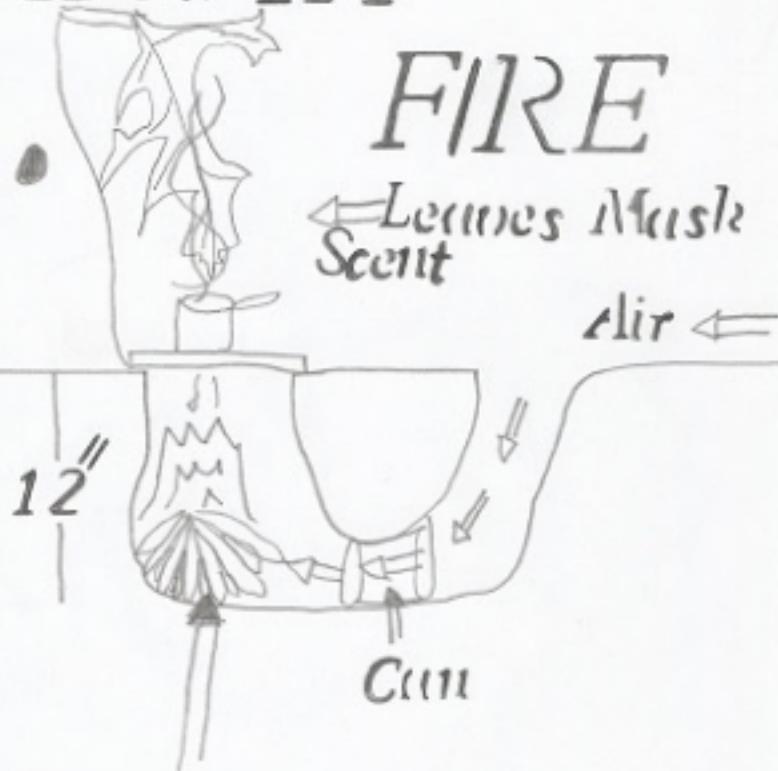
1.  Washed/Crushed leaves in jar with oil for 3 days. Remove old leaves, add fresh leaves/more oil...repeat to desired amount.
2. Dilute 10 drops oil to 1 cup water

# PEMMICAN



Grind Meat / Berry  
To Powder. Pour Fat.  
Form Balls. Store up  
to 10 years.

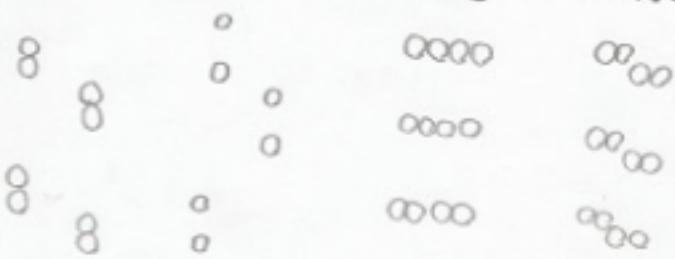
# DAKOTA



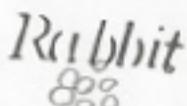
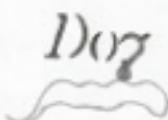
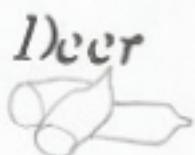
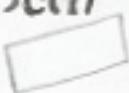
*Fire Hidden*

# TRACKING

*Stalk*   *Trot*   *Lope*   *Gallop*



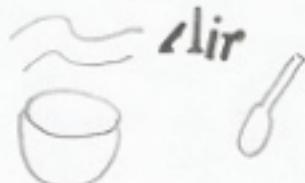
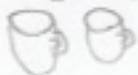
*Bear*   *Deer*   *Dog*   *Rabbit*



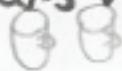
*Crooked Tree*   *Frayed Hotel Twig*   *45° Cut Twig*

# WILD YEAST

2 Cups Flour



2 Cups Water

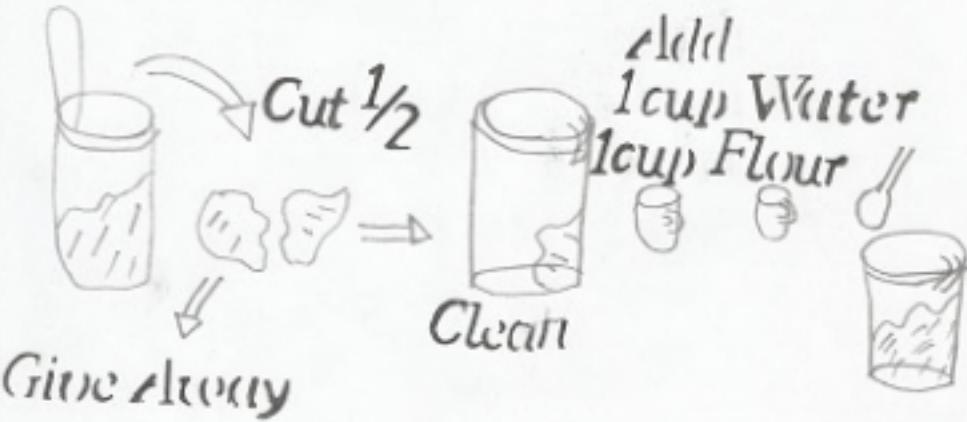


Mix 48  
Hours

Seal

## MAINTENANCE

Every 6 months



# WILD YEAST BREAD



=> Add Equal Amounts  
Water / Flour To = 5 Cups



=> Seal 1 Cup



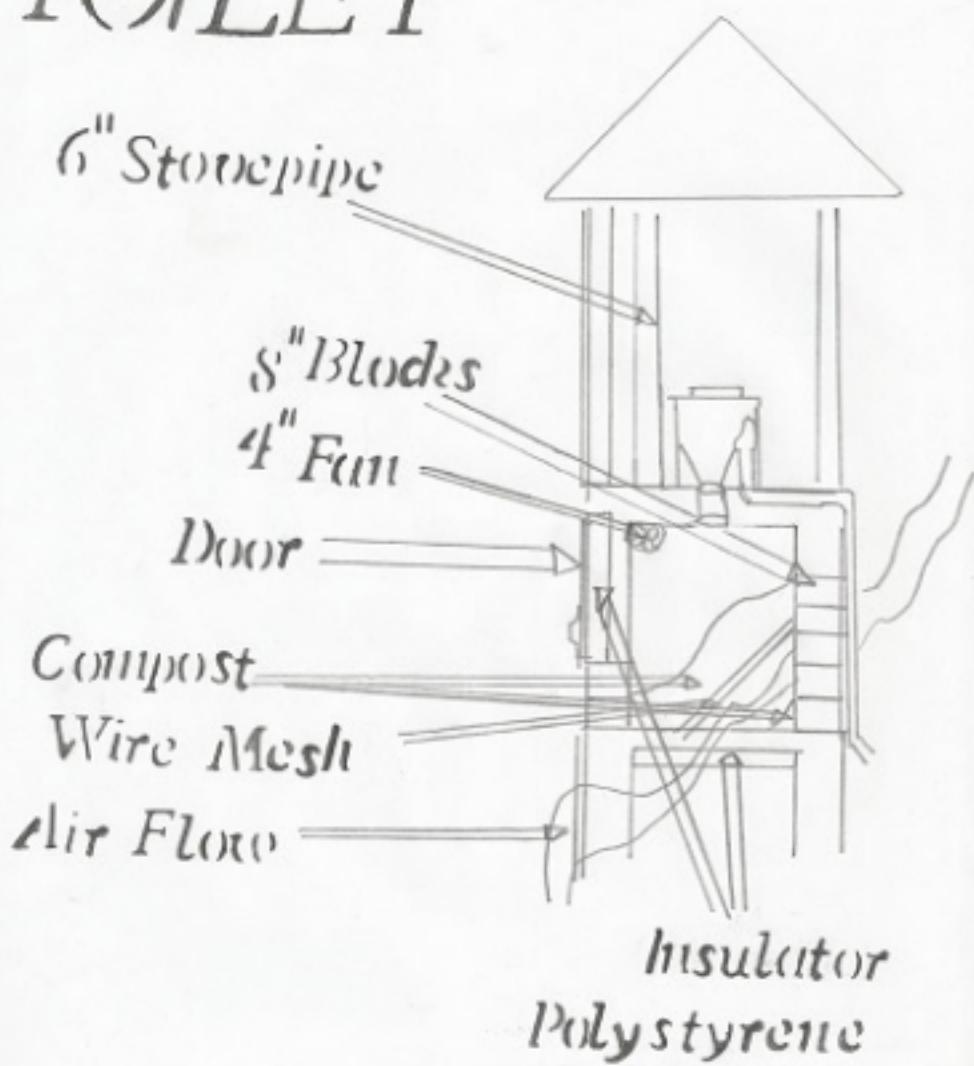
Let 4 Cups Sit in Bowl 12 Hours



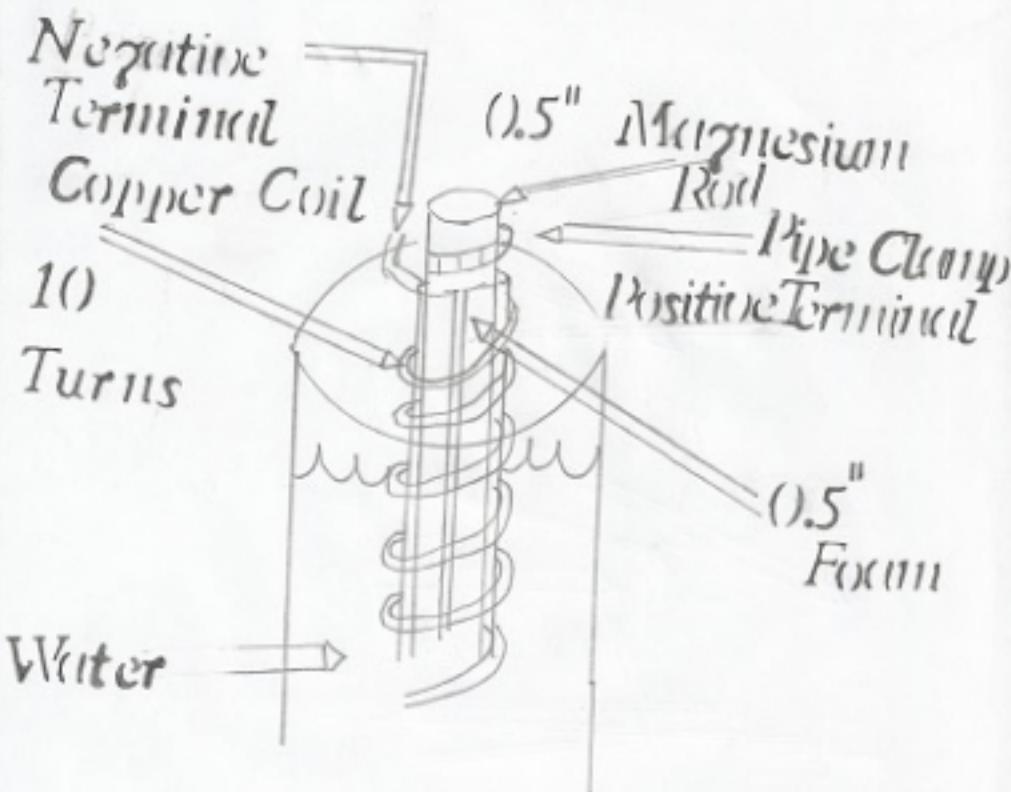
=> Add 1 cup milk      6 cups flour  
1 Tbsp Salt      2 Tbsp Oil  
2 Tbsp Sugar



# COMPOST TOILET

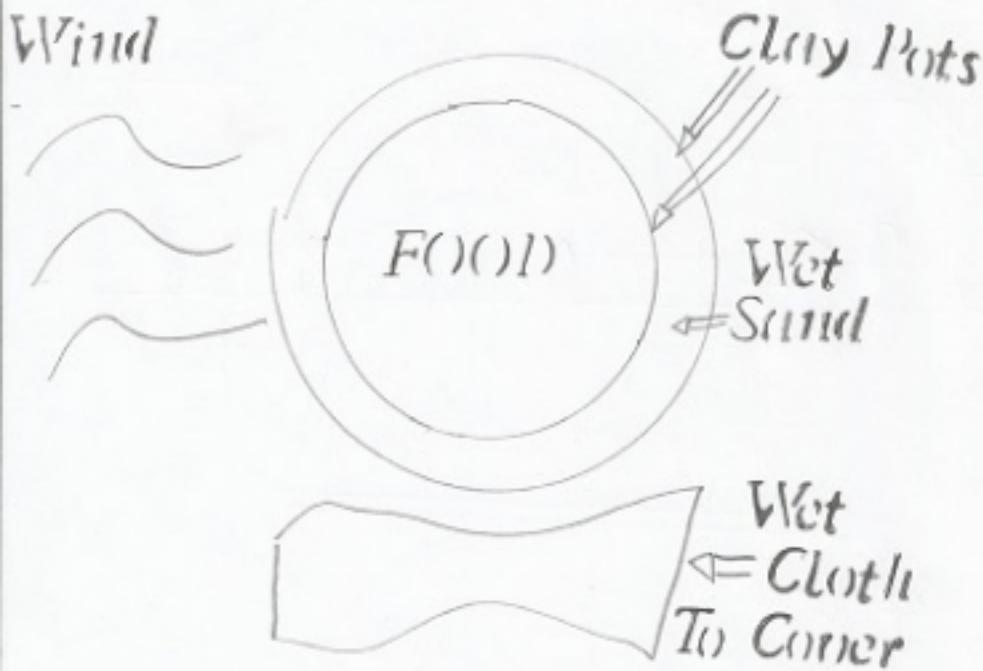


# WATER BATTERY



Submerge to foam top for  
1.5 Volts ; 20—100ma

# ZEER POT REFRIGERATOR



Works Best  $\bar{c}$  Low Humidity  
In Shade

# Fahrndheit

H	65	70	75	80	85	90	95	100	105	110	115	120
u	10	44	45	46								74
m	20	45										82
i	30	49										
d	40	52										
i	50	54										
t	60	57										
y	70	59										
%	80	61										
	90	64										
	100	65										

Zeer Pot  
Cooling Table

Modern Fridge 40°

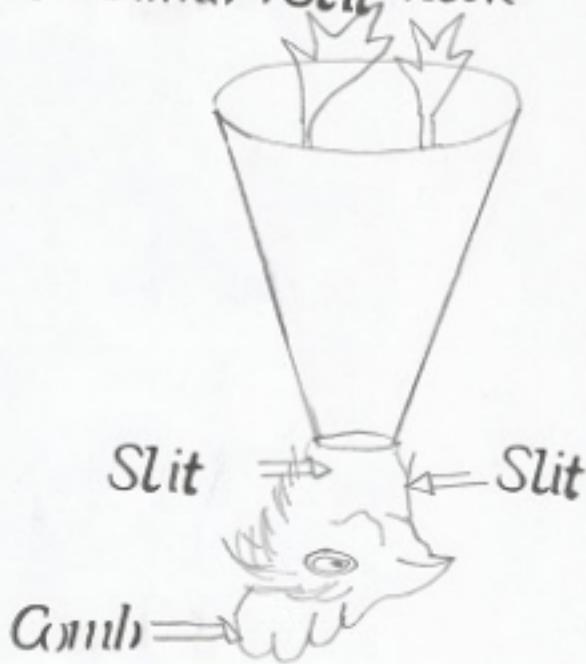
Walipini 60° Constant coverage  
So 10 - 20% Humidity (From Vents)  
With air flowing over

Zeer Pots

Is The Target Humidity

# CHICKEN CLEANING

1. Place Chicken in upsidedown cone.  
Hold Comb ; Slit Neck



2. Scalding water bath until feathers easily pull free.



3. Place chicken on its back. Cut feet off at joint.



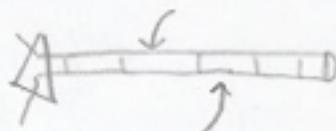
4. Decapitate.



5. Follow soft neck tube (esophagus) to sac (crop); Pull free

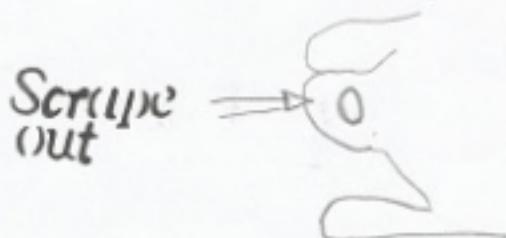


6. Cut a triangle at base of windpipe



Twist free.

7. Remove oil gland from butt area.  
Feels like a nodule.



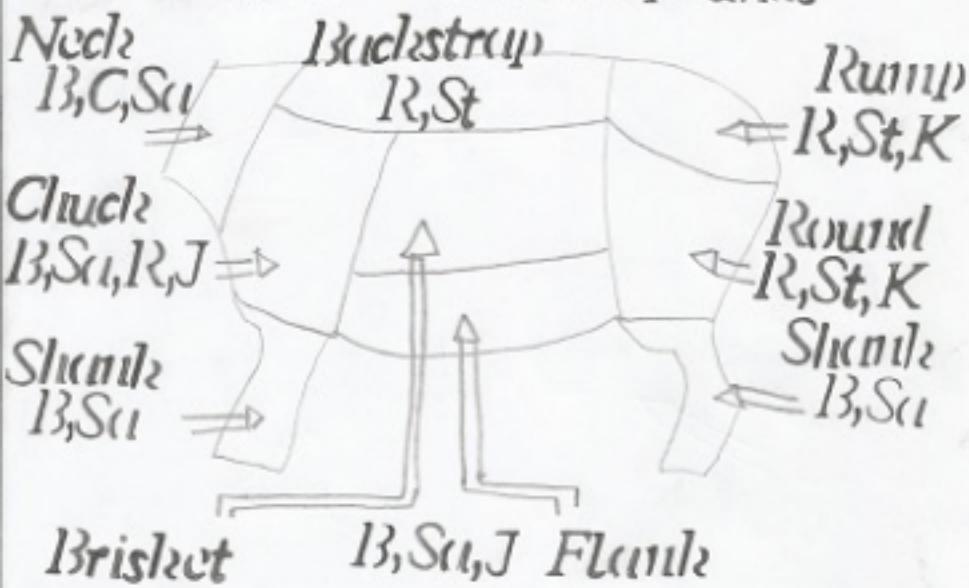
8. With blade held horizontally at  
butthole cut 1" in. If yellow fluid  
pushes out (ure); Contaminated.  
Pry open hole with hands. Wash  
Fecal matter off.



9. Remove innards. Wash bird.

# SKINNING

100 Pounds = 43 Edible pounds

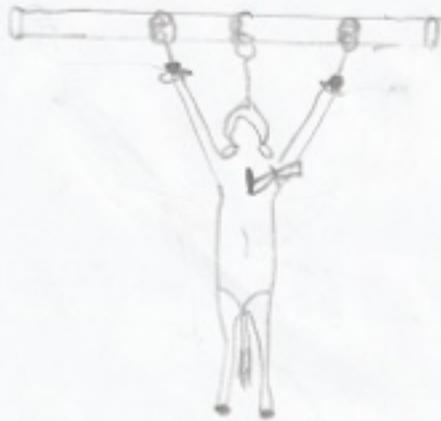


*B= Burger J= Jerky R= Roast*

*C= Chili K= Kabobs Sai= Sausage*

*St= Steak*

1. Hang animal by front legs first.  
Cut over breastbone.



2. Insert 2 fingers into cut; Work  
skin away from flesh; cut all  
skinning nuckles thus.



3. Remove Skin. From breastbone  
cut through muscle; spilling guts.



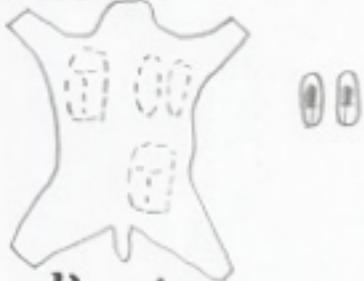
4. Wash meat. Butcher cuts. Preserve

# Buckskin

*Shirt*



*Shoes*

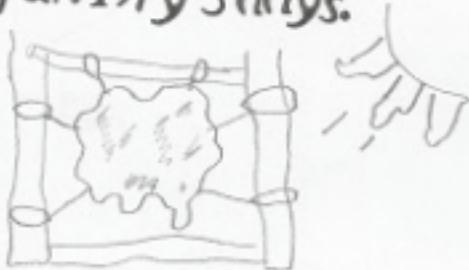


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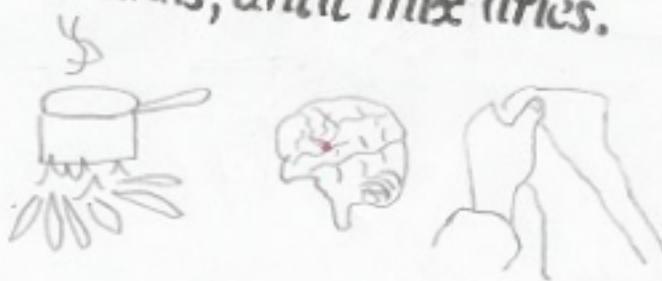
*Pants*



1. Scrape skin of animal with a flint or knife. Remove all fat and fur. Dry 3 days.



2. Boil water. Add animal brains or egg yolk. Rub mix on dry skin. Stretch skin continuously with hands, until mix dries.



3. Smoke skin over fire 6 hours. Resmoke every 3 months.



# Greensand Metalcasting Foundry

1.5 PORTLAND CEMENT 2 SILICA SAND OR 3.5 PREMIX MASONRY CEMENT 1.5 PERLITE 2 FIRECLAY =FURNACE MORTAR MIX	10 SILICA SAND 1-1.2 BETONITE CLAY =GREENSAND
4 FIRECLAY 6 SILICA SAND	525 G. QUARTZ SAND 18 G. FLOUR 10 G. SOLVITE 12.5 ML. LINSEED OIL
=CLAY CRUCIBLE	=CORE MAKING
10G OZ. FIRECLAY 64 OZ. GRAPHITE FLAKE #2 OR #3 16 OZ. BOROSILICATE GLASS 24 OZ. SILICONE CARBIDE =GRAPHITE CRUCIBLE	

# *The Furnace*





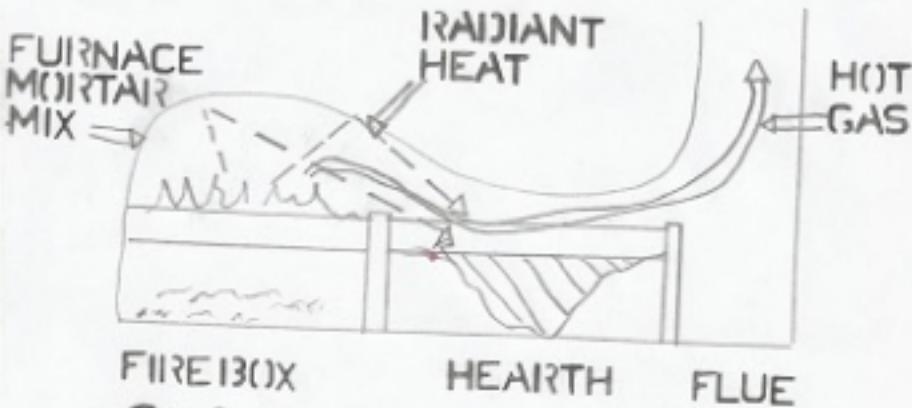
## SODIUM SILICATE (WET METHOD)

1. HEAT 4-8 GRAMS OF SODIUM HYDROXIDE (LYE) IN 10ML. OF WATER.
2. ONCE LYE IS DISSOLVED; ADD 6 GRAMS OF SILICA GEL BEADS (CRYSTAL CAT LITTER)

## DRY (DRY METHOD)

1. (QUARTZ SAND) AKA (PLAIN BEACH SAND) (WHITE BEACH SAND) IS LIMESTONE SAND
- +

SODIUM CARBONATE HEATED IN A  
REFLECTION FURNACE (AKA WASHING SODA)



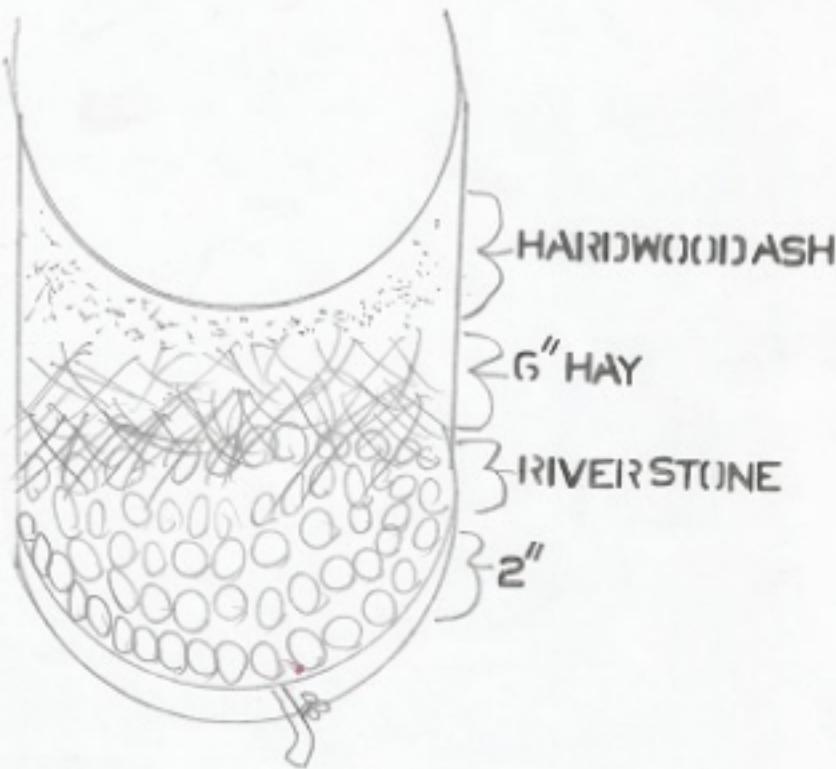
## CO<sub>2</sub> Cycles

20ML SODIUM SILICATE  
1 KG DRY SAND

CO<sub>2</sub> GAS (COMBINE VINEGAR/BAKING SODA)

# Foundry Lye

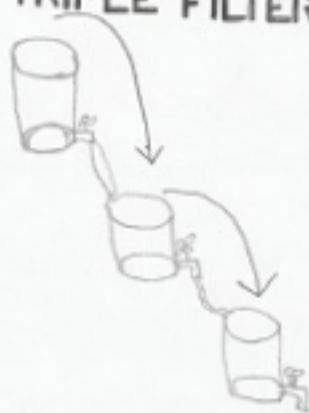
1. COLLECT 3 GALLONS RAIN



2. POUR RAINWATER IN BARREL. 3 DAYS  
LATER DRAIN INTO GLASS/WOOD CONTAINER.

# Baking Soda

1. HEAT SALT WITH SULFURIC ACID  
=SODIUM SULFATE
2. COMBINE 2:2:1 OF SODIUM SULFATE,  
LIMESTONE, COAL
3. REFLECTION FURNACE 1,000°C
4. TRIPLE FILTER WATER LEECHING



5. BLOW CO<sub>2</sub> THROUGH FINAL LEECHING
6. EVAPORATE WATER WITH INDIRECT HEAT  
FROM FURNACE; LEAVING ASH.
7. CONCENTRATE ASH; REDISSOLVE IN  
HOT WATER; IT CRYSTALLIZES AS IT COOLS

## Sulfuric acid

1. BURNING SULFUR AND SALT PETER IN THE PRESENCE OF STEAM

## Salt peter



## Salt



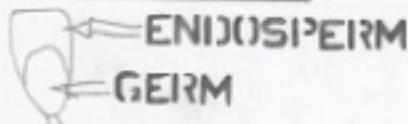
## Washing Soda

1. COOK BAKING SODA AT 400°F FOR 30 MIN.

## Talcum powder

1/2 CUP BAKING SODA  
 1/2 CUP CORN STARCH  
 1 CUP ARROWROOT POWDER (OR FLOUR)

## Cornstarch

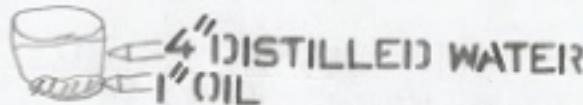


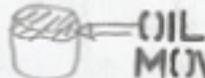
## CORN KERNEL

1. STEEP FOR 2 DAYS 50°C.
2. SEPARATE COMPONENTS AND GRIND IN WATER ENDOSEPERM ONLY
3. CENTRIFUGE AND FILTER SLURRY

## Linseed Oil

1. GRIND FLAXSEEDS TO PASTE
2. ADD WATER AND PRESS TO OIL
3. IN GLASS JAR PUT



4. PUT IN SUN FOR A WEEK =  OIL MOVES TO TOP
5. SPOON OIL INTO BOWLS
6. PUT BOWLS IN GLASS COVER BOX WITH SPACERS FOR AIRFLOW. PUT BOX IN SUN FOR A MONTH, STIRRING DAILY

## Solvite

1. ADD 1 TBSP STARCH AND 1 CUP OF WATER.  
COOK UNTIL CLEAR.

## Vinegar

1. CORE, PEEL, BROWN, 10 APPLES.
2. COVER WITH WATER IN BOWL.
3. COVER BOWL WITH CHEESECLOTH
4. STORE 6 MONTHS (GRAY SCUM IS OK)
5. STRAIN WITH COFFEE FILTER
6. STORE 6 WEEKS MORE

## Graphite

1. COOK COAL TO REID HOT AND LET COOL  
(THIS IS COKE NOW)
2. COOK COKE TO 3,500°C. FOR 3 HOURS

## Fire clay

1. TO SOURCE, THINK OF A PLACE WITH LIGHT COLOR MUD. (A RIVERBANK OR DIG SITE)
2. FIRE CLAY SHRINKS WHEN IT DRIES, 10-15%
3. FLATTEN 5" OF CLAY.
4. MAKE 2 MARKS 4" APART. DRY AND CHECK.

## Viking Steel

1. IRON ORE, ANIMAL BONES/CHARCOAL (CARBON), SAND, GLASS; ALL IN A SEALED CLAY CRUCIBLE.
2. TOP DOWN VIEW



BRICK PYRAMID ENCASED IN MORTAR

BELLOWS WITH TRENCHES

3. BURN COAL 5 HOURS

## Clay Crucible

40% FIRE CLAY

60% GROG(GROUND UP OLD CRUCIBLES)  
OR SILICA SAND.

I USE EACH, THEN GRIND TO GROG.

STORE IN AIR TIGHT CONTAINER  
(CRUCIBLES ABSORB MOISTURE).

PRE HEAT CLAY CRUCIBLES IN AN OVEN  
TO REMOVE MOISTURE.(100°C.)

GOD TO MELT; SILVER, ALUMINUM, BRONZE

## Bronze

88% COPPER, 7% TIN, 5% LEAD

MELT COPPER FIRST, THEN ADD LEAD, THEN TIN.

## Aluminum

SCRATCH WITH KNIFE AND PUT VINEGAR  
ON THE METAL. WHITE BUBBLES MEAN  
MAGNESIUM. DO NOT CAST METAL(ANY KIND)  
WITH MAGNESIUM IN IT. FIRE HAZARD.

# Aluminum

1. DIG BAUXITE CLAY  
(FOUND NEAR EQUATOR)

2. GRIND



3. WASHED WITH LYE AND  
QUICKLIME



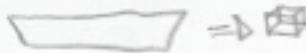
4. HEATED AND FILTERED



5. ELECTRICITY IS RUN  
BETWEEN A NEGATIVE  
CATHODE AND POSITIVE  
ANODE MADE OF CARBON

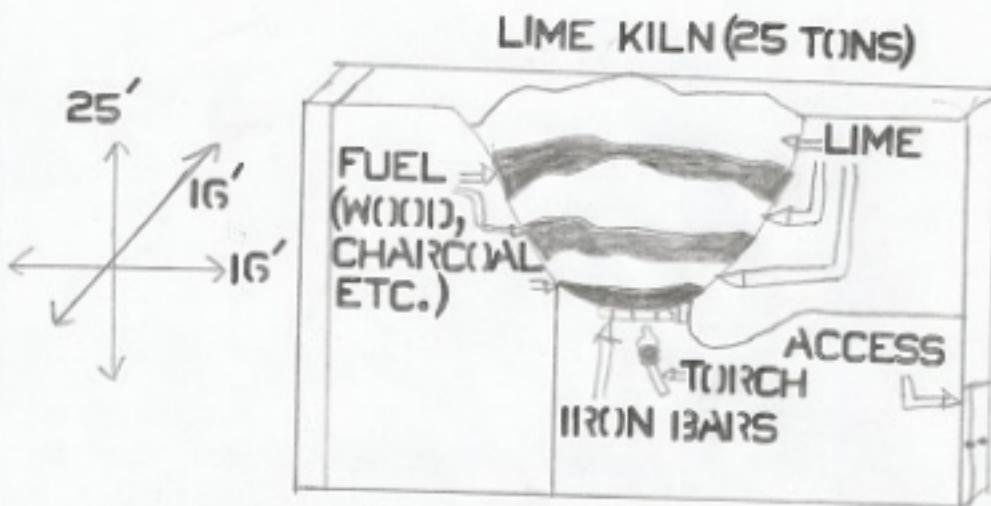


6. INGOTS



## Quicklime

COOK LIME OR SEASHELLS (GROUNDED UP)  
TO 825°C.



LIMESTONE + VINEGAR = BUBBLES / FIZZ  
1 DAY TO LOAD, 3 DAYS TO FIRE, 2 DAYS  
TO COOL, 1 DAY TO UNLOAD.

VOLCANIC ASH + QUICKLIME + SEAWATER  
= ROMAN CEMENT

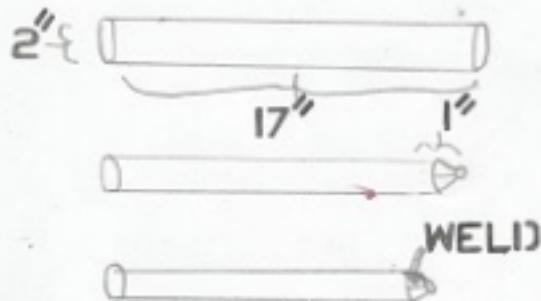
SLIPS PER 100 SOFT FOR SOIL PH (CROPS)

# Waste Oil Burner

1. A 10" BORE FURNACE USES 2 GALLONS OF OIL PER HOUR.



2. TAKE A STEEL PIPE 2" WIDE 17" LONG AND CUT 4 "V" SHAPED HOLES IN PIPE 1" LONG AND  $5\frac{1}{16}$ " WIDE AT THE ENDS AND BEND THE FLAPS UNTIL THE ENDS CONNECT. WELD SEAMS.



3. TAKE A 5/16" PIPE 9" LONG AND DRILL  
A HOLE IN THE BIG PIPE AND PUT  
THROUGH TO THE TAPERED END.



4. ATTACH A FLOW VALVE AND TUBING  
TO OIL RESERVOIR HELD ALOFT.



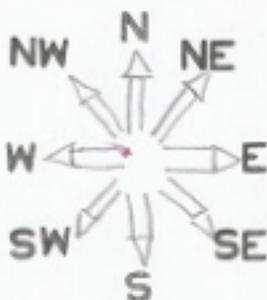
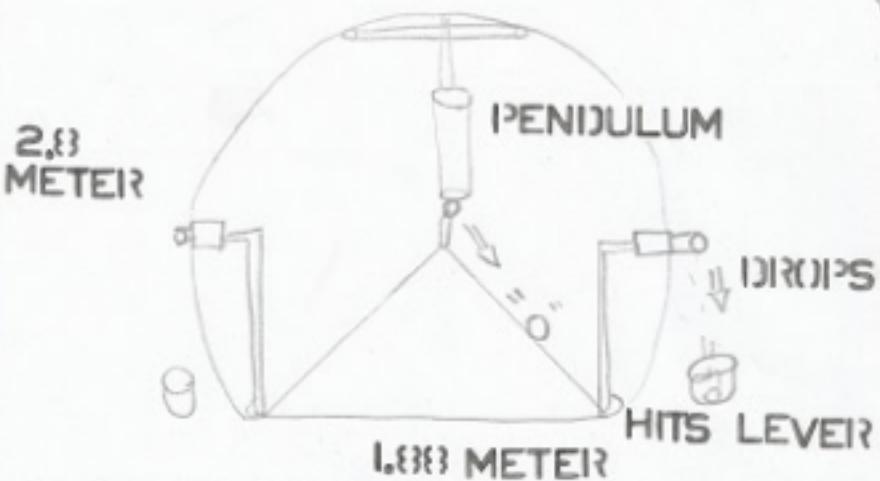
## ORDER OF CASTING

1. PUT MOULD IN DRAG (BOTTOM BOX). \*
2. FILL WITH GREENSAND (BRASS, BRONZE, ALUMINUM) OR PETROLONIZED (IRON).
3. COMPACT THE SAND WITH A 2X4.
4. FLIP DRAG OVER.
5. BRUSH TALCUM POWDER ON SAND AND MOULD.
6. PLACE COPE(TOP BOX) ON DRAG.  
\*\*
7. PUT RISER TUBE IN (MAKES HOLE IN SAND LIQUID METAL RISES UP OUT OF WHEN MOULD CAVITY IS FULL.)
8. FILL PARTLY WITH SAND.
9. PUT FEEDER TUBE IN OPPOSITE RISER (MAKES HOLE IN SAND THAT FEEDS THE MOULD CAVITY LIQUID METAL.)
10. FINISH FILL, SMOOTH, REMOVE PIPES.

11. SEPERATE COPE AND DRAG.
  12. CUT INGATE (A PATH IN SAND FROM FEED TUBE TO MOULD).
  13. REMOVE MOULD
  14. PUT CORE INTO MOULD CAVITY IF NEEDED (CREATES A NEGATIVE SPACE, AN EXAMPLE; A CUP.)
  15. PUT COPE BACK ON.
  16. FORM RISERS (CYLINDERS OF SAND), FORMED WITH A HOLE THROUGH THE MIDDLE, PUT OVER TUBE HOLES TO CONTROL/GAUGE THE POUR. )
  17. PUT HEAVY BRICKS ON CORNERS OF COPE.
  18. PUT METAL IN CRUCIBLE AND PLACE IN FURNACE, LIGHT THE BURNER.
  19. STIR AND REMOVE DROSS. SALT DRIVES OFF HYDROGEN (PURIFIES THE METAL). WASHING SODA REDUCES SLAG.
  20. POUR
- \* IF A CORE IS NEEDED SPLIT MOULD IN  $\frac{1}{2}$ . PLACE FIRST  $\frac{1}{2}$  IN DRAG; EMPTY SIDE DOWN.
- \*\* ALIGN AND PLACE OTHER  $\frac{1}{2}$ .

# ZHENG HENG SEISMO METER

EARTHQUAKES MOVE ← → NOT ↑ ↓



ONE RAMP  
FOR EACH  
DIRECTION

THE CUP THE BALL LANDS IN IS  
THE DIRECTION OF THE EARTHQUAKE.

# INK

4 Pomegranate Peels

2 Quarts Distilled Water



Seal in jar for 2 months,  
Then strain and boil  
Down to 4 cups.

Add 2 Ounces Iron Sulfate and stir.  
Iron Pyrite covered with rainwater  
evaporating 2 weeks, leaves white  
and green Iron Sulfate crust. Iron  
Pyrite is fools gold. Alternately  
add iron filings to sulfuric acid;  
after the reaction boil down.

add 1 ounce of gum arabic or dextrose.

---

Dextrose Process:

1/4 Cup corn starch

Bake at 350°F.

Remove every 5 minutes to crush  
lumps with metal spoon.

3 Hours of heat/Crushing

---

add 7 Cloves

Yields 32 Oz. of Pen ink.

# PRINT INK

1. 1 cup of 100° F water mixed with 2 cups of Flour makes Plaster of Paris.
2. Paper towel / or any tube; line the inside with wax paper and seal one end.
3. 3 Tablespoons of tempera paint which is egg white with vinegar 1:1 by volume dyed.  
1/2 Cup of water  
3/4 Cup plaster of paris
4. Mix. Pack into tube. Dry for a day. This is ground to powder.

5. Mix 3 Tablespoons of powdered tempera with 1 tablespoon of clear varnish with a palette knife on a sheet of glass

Varnish is made with 1 tablespoon of shellac (SE alsia lac huz suches sap from trees leaving resin behind called shellac) in 1/2 a cup of alcohol.

an alternative to varnish is a sealer

1 part linseed oil

1 part turpentine

1/2 part apple cider vinegar

## Varnish without shellac

1 Quart Turpentine

1 Quart Linseed Oil

1/2 Pint of Pine Tar

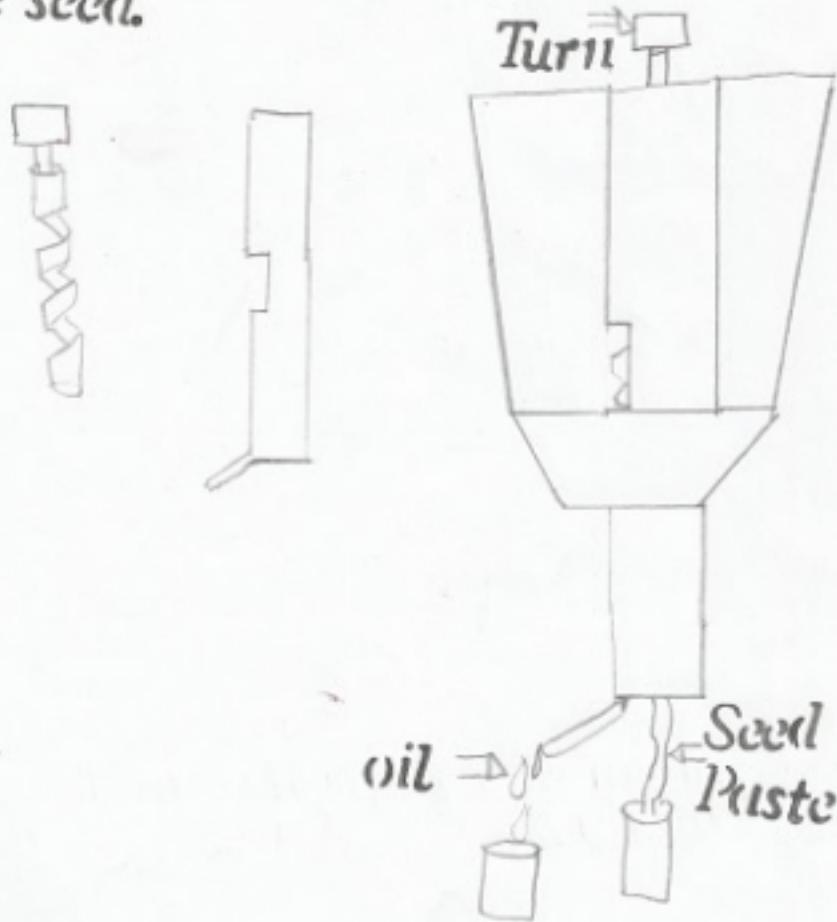
1/2 Pint of Japan Dyer (optional)

Fat wood comes from pine trees at the branch near the trunk. When the branch is sawed, sometimes darker areas are seen among the rings. This is concentrated sap called Fatwood; Which heat extracts Pine Tar from. Pine Tar distilled is Turpentine.

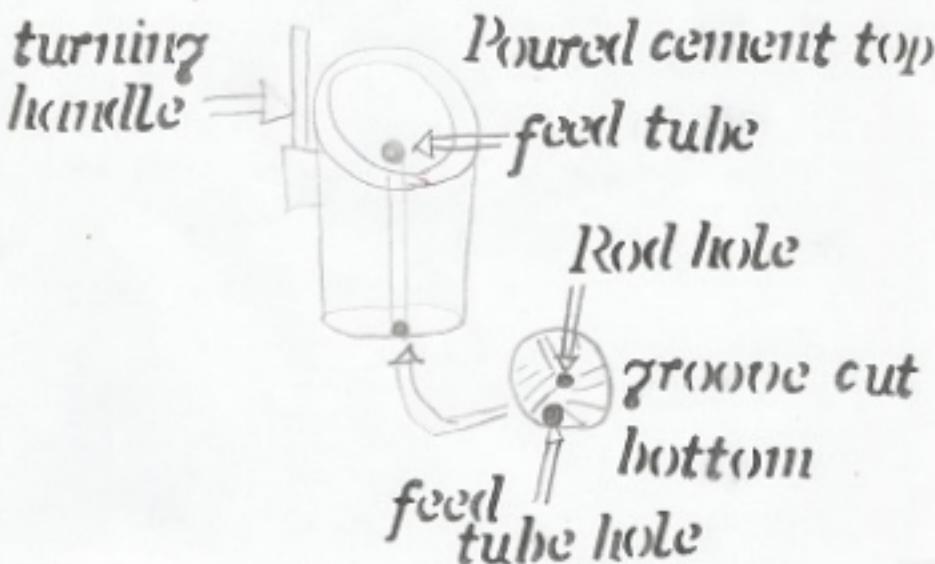
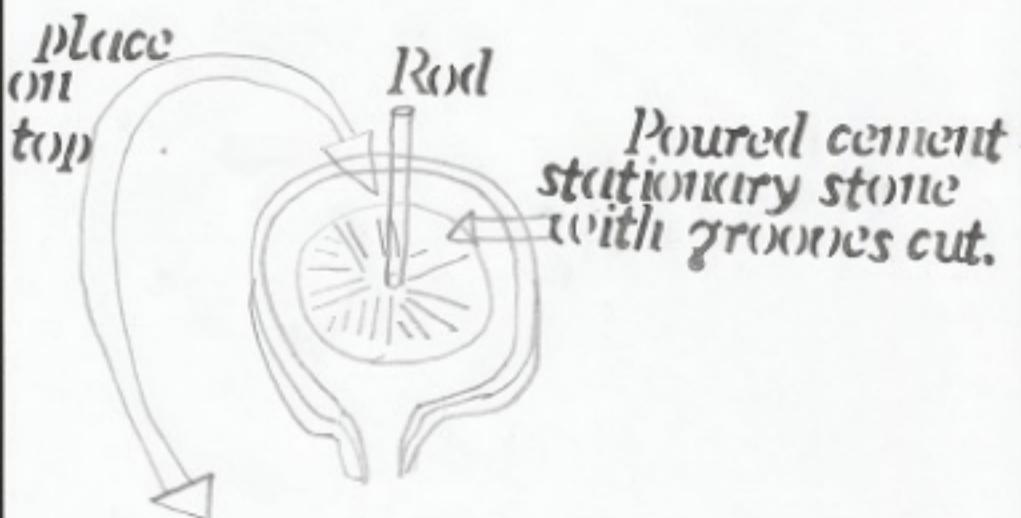
# PAPER

1. Hemp is ready to harvest in 70-90 days after seedling.
2. Scythe 1 acre and let lay in place for 1 month turning several times.
3. Gather / Store in a dry shed.  
(2-5 tons on average per acre)
4. Remove the seeds and clean them.  
1 acre = 208' X 208' = 8,000 LBS. of  
hemp seed = 3000 gallons of oil and  
6,000 LBS. of high protein flour.  
One gallon of lamp oil would last  
about 42 days, if burned at the rate  
of 0.5 ounces per hour, for 6 hours  
a day (a normal evening amount).

To make the flour you must  
first cold press the oil out of  
the seed.

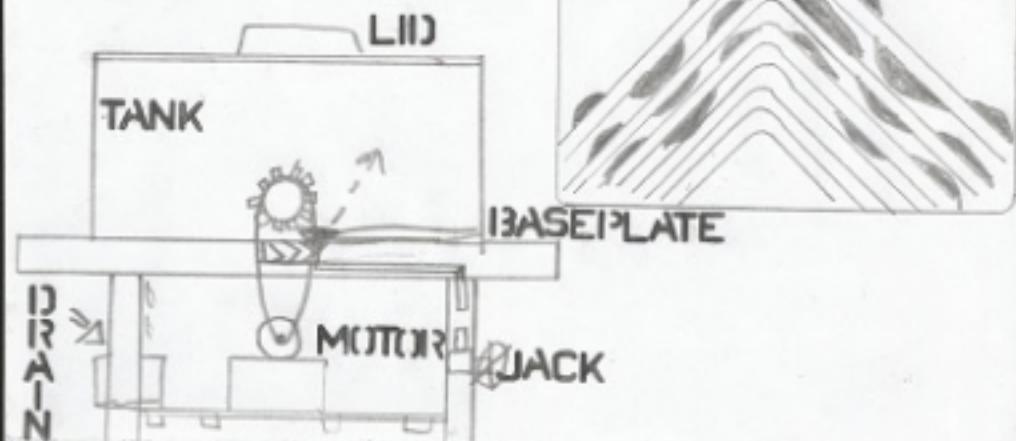
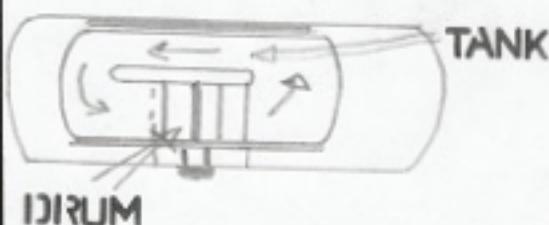


Take the seed pastemill to flour  
with a Quern.



*Take the bast fiber and soak it with lye for a week. Lay out in the Sun to dry for two weeks. Repeat five times to whiten.*

*5. Pulp the bast fiber in a hollander beater for 12 hours*



A Hollander beater is essentially a giant mortar and pestle filled with fibers flowing in a circle in water. The fibers being ground repeatedly smaller, by a periodically raised higher baseplate for hours.

Bleach may be added to whiten.

100 grams of salt

1 litre of water

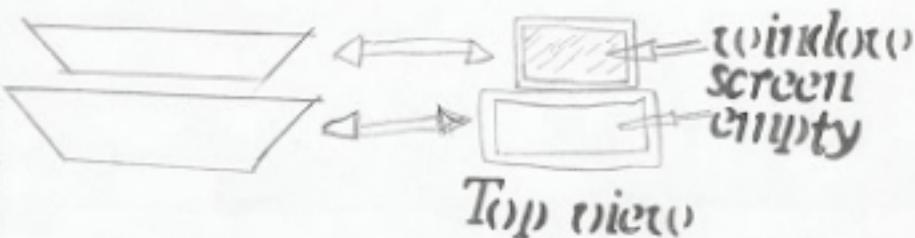
12 volts of electricity

1 hour

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Bleach

6. Lift the pulp out with a deckle  
and mould.



7. Dry, sponge



Put with sponge and press with  
roller.

# QUILL



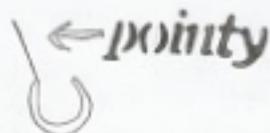
1. Choose feather is used.
2. Scrape away the scales from the shaft.
3. Cut off the end of the shaft. &
4. Use wire hook to clean out the inside of the shaft.
5. Heat quill in beach sand. Fill shaft with hot sand and bury in heated sand for five minutes. It will turn yellow.
6. Form a tip on the end of the quill by making a 3MM. center cut  
  
and two concave side cuts.



7. Make a brass reservoir. What is needed is a 1mm. strip of brass bent with pliers into a hook.



8. Shape with hammer and anvil.



9. Place the reservoir into the quill with the pointy end on the center cut 1 or 2mm. back from the tip of the pen.



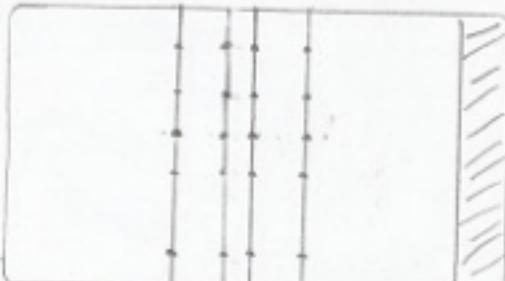
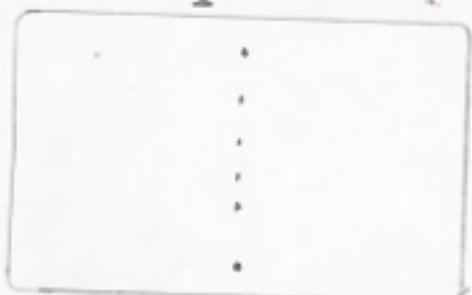
# Leather Journal

1. Stack 8 pages together and fold in half. Stacks are called signature.
2. Create a template from card stock. Cut to same size as an unfolded page and fold the card stock to match.
3. Create a second template for the leather cover, out of card stock, same height, but 8" longer.
4. In the fold of the signature template measure 1/4" in from top and bottom and mark; and poke holes with an awl through the card stock. Mark 1" from the previous holes, along the fold and poke 2 more holes. Continue to the fold center.

5. Line up the template with a signature stack; fold to fold and poke through the pages. Repeat for all signatures.
6. Mark  $1/16"$  to either side of the fold of the second template. Mark  $1/8"$  from the first marks. You now have 4 signature lines...
7. Place the first template on the signature lines and poke holes.

1<sup>st</sup>

2<sup>nd</sup>



5" cover flap

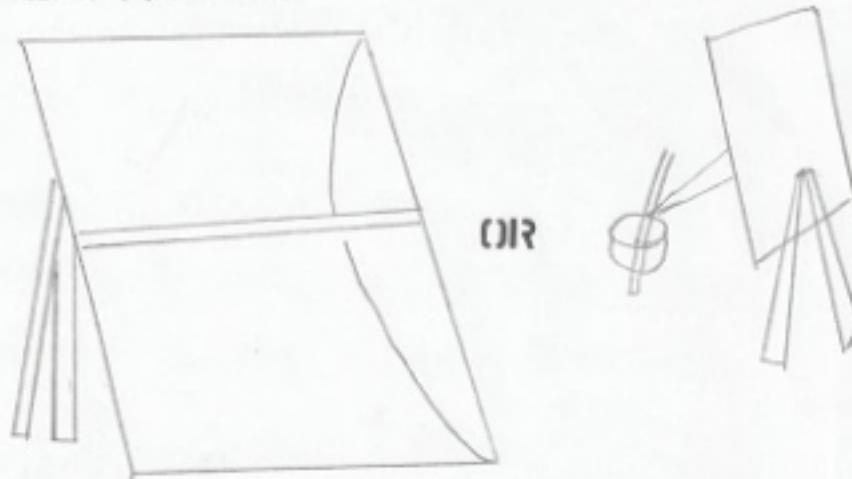
8. Align 2<sup>nd</sup> template on leather  
and poke holes through leather.
9. Dye leather if desired. Dry 24-48  
hours.
10. Apply rubbing alcohol then  
petroleum jelly to soften.
11. Measure wax string to total  
combined height of all signatures  
and sew together.
12. Read thy book!

# Solar Ice Maker

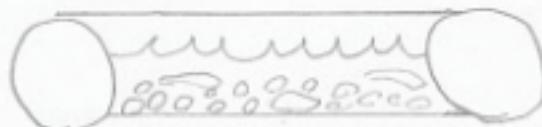
AN ELECTRICITY FREE METHOD

NO PUMPS, VALVES, MECHANICAL PARTS

1. PARABOLIC MIRROR OR FRESNEL LENS  
TO HEAT A PIPE.



2. FILL THE PIPE WITH CALCIUM CHLORIDE AND AMMONIA FIRST.



## CALCIUM CHLORIDE

1. MIX EQUAL PARTS LIMESTONE AND HYDROCHLORIC ACID.  
(SALT AND SULFURIC ACID TO PRODUCE, AT ELEVATED TEMPERATURE, SODIUM BISULFATE AND HYDROGEN CHLORIDE GAS. THE GAS DISSOLVES IN WATER TO MAKE HYDROCHLORIC ACID.)

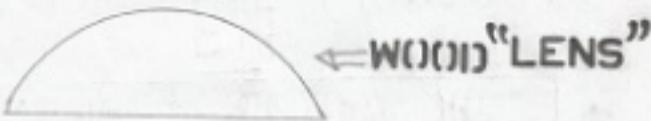
## AMMONIA

2. UREA DECOMPOSES INTO AMMONIA.  
(COLLECT TEN LITRES OF URINE. AFTER A WEEK, BOIL DOWN TO SOLID MASS; APPROXIMATELY 300 GRAMS. ADD SIX LITRES OF ETHANOL. BOIL THIS DOWN TO APPROXIMATELY 200 GRAMS UREA.)

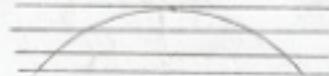
3. ETHANOL; HEAT 3.4 LITERS OF DISTILLED WATER AND 1 KILOGRAM OF SUGAR UNTIL CLEAR. COOL TO ROOM TEMPERATURE. PUT IN JUG AND ADD YEAST AND STIR. AIRLOCK. STORE FOR 3 WEEKS. DISTILL.

### Fresnel Lens

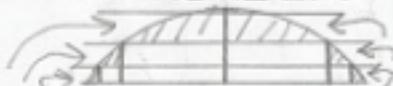
1. MAKE A MOULD PATTERN TO CAST GLASS, OR ACRYLIC.



2. TO REMOVE  $\frac{1}{3}$  THICKNESS OF ORIGINAL DRAW 3 EQUALLY SPACED HORIZONTAL LINES.



3. DRAW A VERTICAL LINE AT VERTICES.



4. KEEP UPPER SEGMENTS. CUT OUT.



5. CAST.

# GLASS

1. TAKE 2.2 POUNDS OF SILICA SAND AND ADD 0.3 POUNDS OF SODIUM CARBONATE (WASHING SODA) AND 0.3 POUNDS OF LIME. MIX.
2. HEAT TO 1500°C IN A CRUCIBLE.
3. STIR WITH 1 TSP OF SALT.
4. CAST.

TO CUT GLASS SMOOTHLY;

1. SCORE THE GLASS (LIGHT CUT).
2. ALTERNATE HOT AND COLD WATER ON THE SCORE.

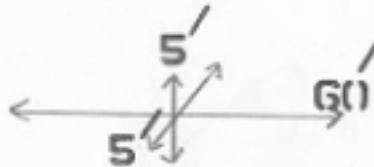
# AQUAPONICS 2 PER WALIPINI

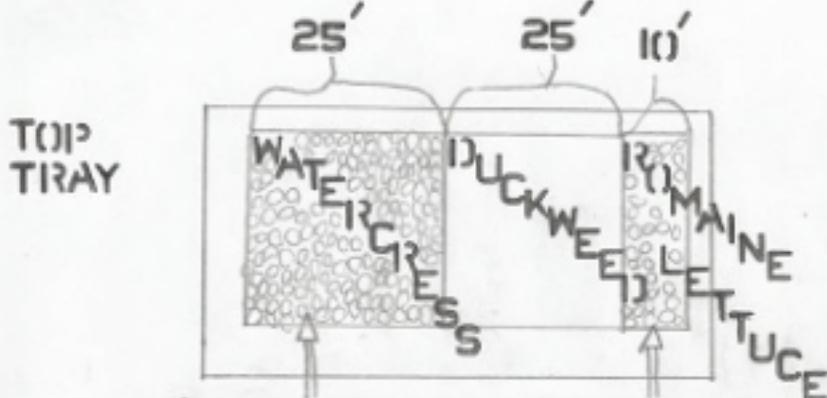
150 TILAPIA  
1000 GALLON  
CURVED TANK

10000 GPH PUMP  
EVERY 2 HOURS TANK  
WATER CYCLED.  
15 30 45 60  
ON OFF ON OFF

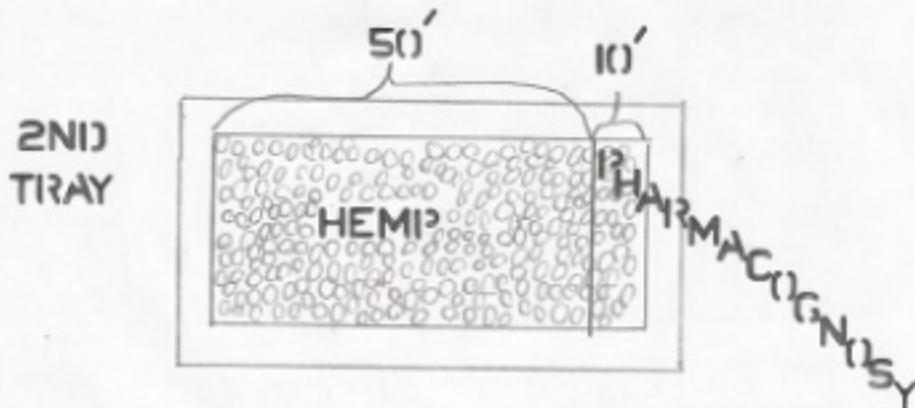
250 GALLONS/ON  
0.3 HORSEPOWER TO  
LIFT 5'

800 WATTS RUNNING,  $\div 120VOLTS$  6.6 AMPS  
3000 WATTS STARTING,  $\div 120VOLTS$  25 AMPS  
YOU NEED TEN OF THE 20AMPS/1DAY/60WATT  
SOLAR PANEL AND TWO 100 AMP DEEP CYCLE  
BATTERIES AND 3600 WATT INVERTER/PUMP.

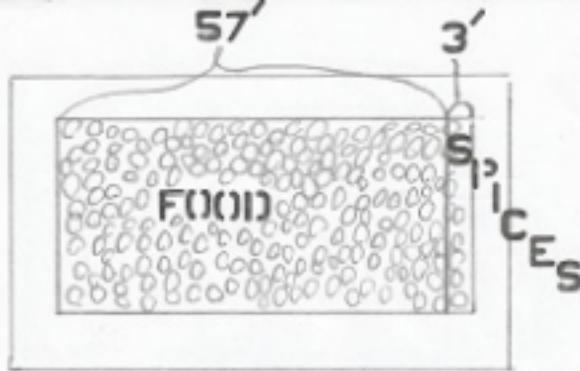




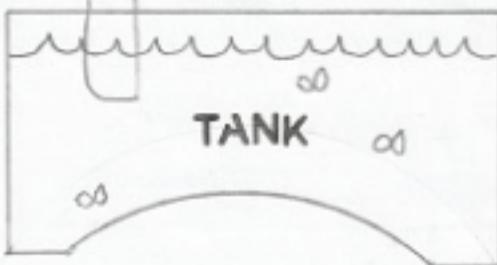
3-4" OF SCORIA ROCKS OR RIVERSTONES  
OR FISHTANK PEBBLES. THE CONCERN  
IS LEECHING. MAINTAIN PH 6.0-7.5  
AND WATER TEMPERATURE 68-70°  
MAINTAIN DUCKWEED 1.5-2 LBS./METER



BIRD  
TRAY



FEED BAG

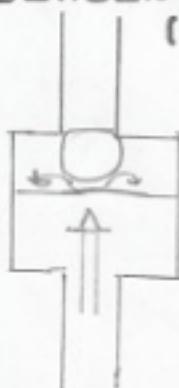


# PH SOIL TEST

1. COLLECT A CUP OF SOIL FROM DIFFERENT PARTS OF THE GARDEN.
2. PUT 2TSP INTO 2 SEPERATE CONTAINERS EACH.
3. ADD 1/2 A CUP OF VINEGAR, IF IT FIZZES IT IS ALKALINE PH 7-8, TO THE FIRST CONTAINER.
4. IF NO FIZZ POUR A SMALL AMOUNT OF DISTILLED WATER IN THE SECOND CONTAINER TO MAKE MUD.
5. ADD 1/2 A CUP OF BAKING SODA, IF IT FIZZES IT IS ACIDIC PH 5-6.
6. NO REACTION IS PH 7, WHICH IS GOOD.

# MANUAL WATER PUMP

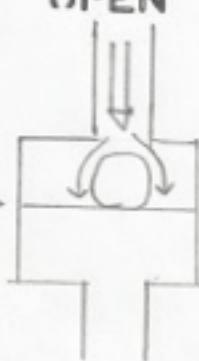
CLOSED



ONE WAY FLOW VALVE

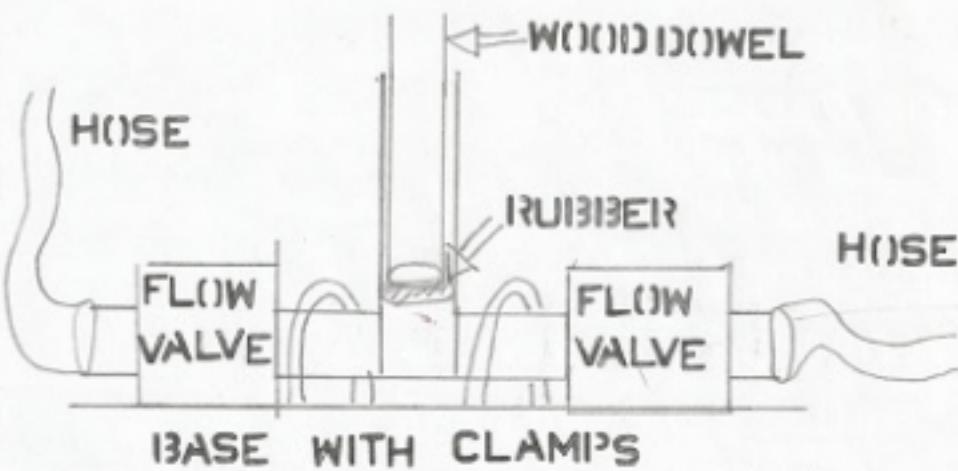
METAL PIN

OPEN

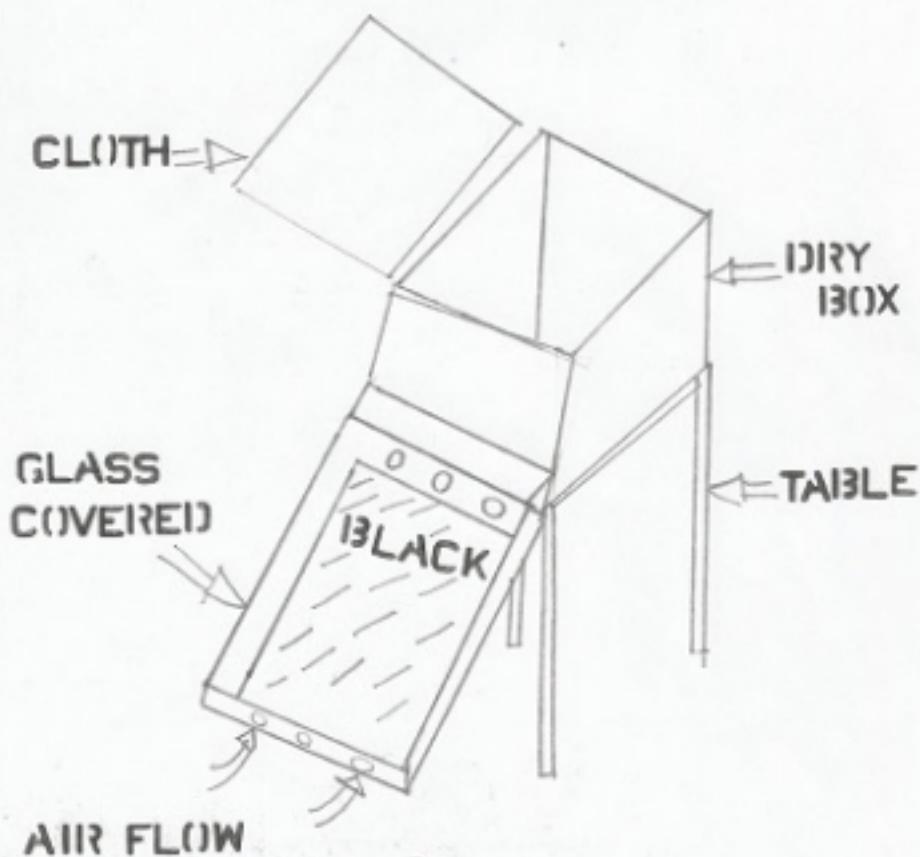


WATER STOPS

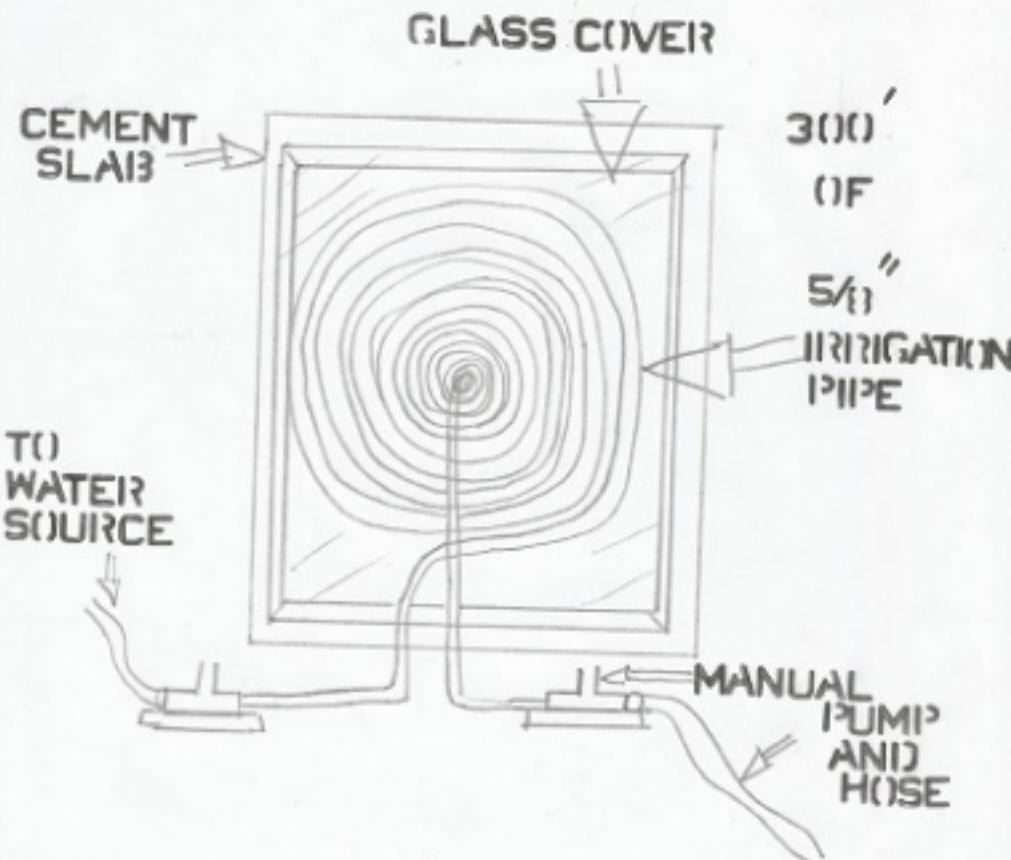
WATER FLOWS



# SOLAR DEHYDRATOR

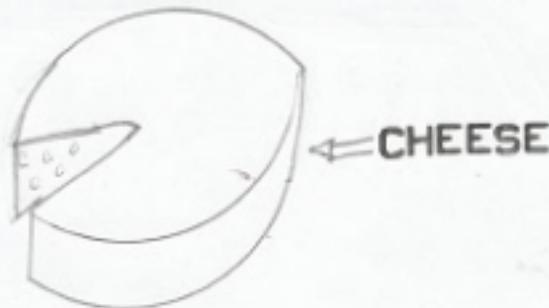


# SOLAR WATER HEATER

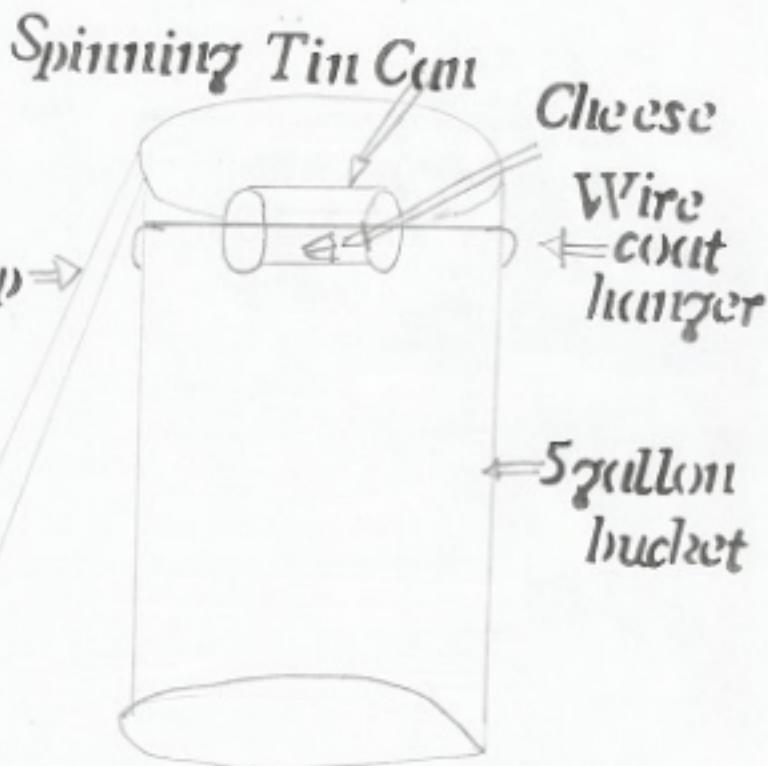


# CHEESE

1. BOIL 4 CUPS OF MILK, REMOVE FROM HEAT.
2. ADD 2 OUNCES OF LEMON JUICE.
3. ADD 1 TABLE SPOON SALT AND STIR.
4. ADD CHIVES AND GARLIC.
5. LET STAND 5 MINUTES
6. STRAIN THROUGH CHEESE CLOTH (LINE) COLANDER 5 MINUTES.
7. SHAPE WHAT IS LEFT IN THE CLOTH.
8. ENJOY.



# MOUSE TRAP

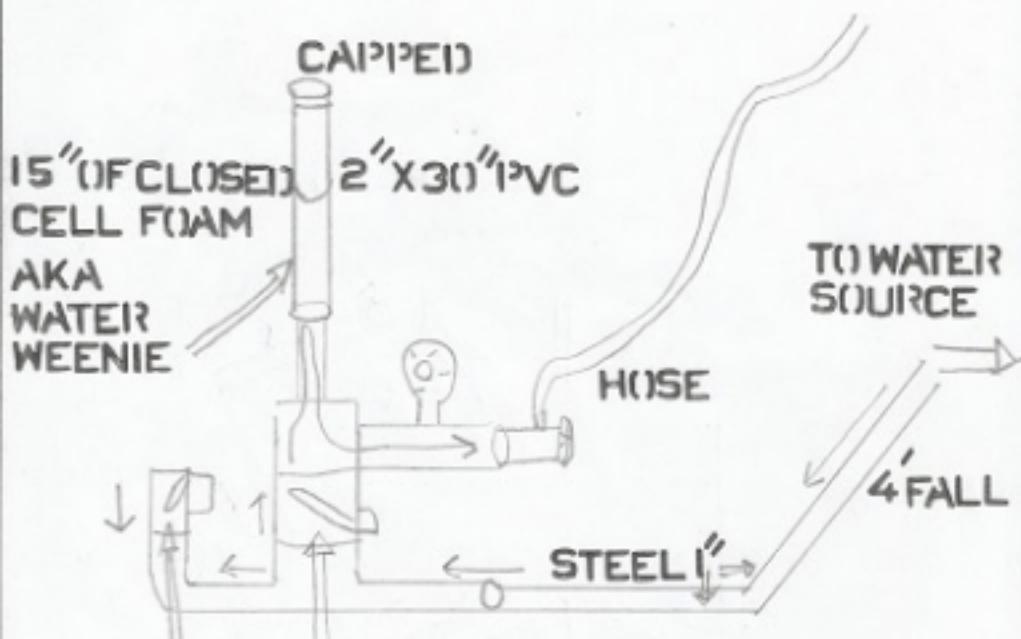


# STRING

1. BOIL WATER.
2. ADD ASH OF A PREVIOUS FIRE TO POT.
3. REMOVE THE BARK OF A WILLOW BRANCH.
4. CUT THE INNER BARK INTO THIN STRIPS AND BOIL 1 HOUR.
5. DRY.
6. BRAID INTO CORRIGAGE



# WATER RAM PUMP



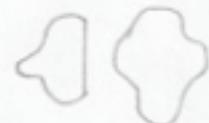
13 BRASS SWING CHECK VALVES

NO ELECTRICITY OPTION FOR  
AQUAPONICS, ICE MAKER ETC.

# SUGAR WAXING

1. PUT 2 CUPS SUGAR AND  $\frac{1}{4}$  CUP OF LIME OR LEMON JUICE AND  $\frac{1}{4}$  CUP OF WATER IN A POT.
2. MAINTAIN A TEMPERATURE OF 200°F., STIRRING CONSTANTLY FOR 15 MINUTES. IT WILL TURN DARK AMBER.
3. POUR INTO A JAR. USE AS BODYWAX.

## FEMININE PADS



3 PIECES OF  
FLANNEL/CLOTH

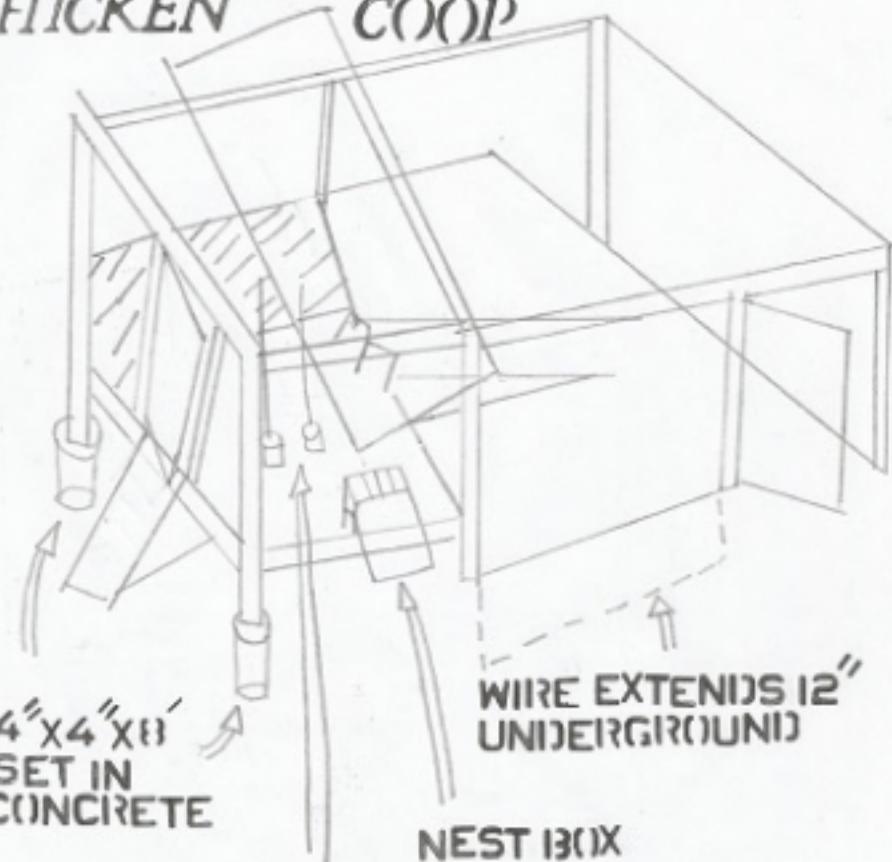


FOLD  $\frac{1}{4}$ " IN ON  
WINGS AND SEW



SEW 4TH PIECE WITH BUTTONS  
AS A COVER WITH SLIT FOR  
ABSORBENT PAD INSERTS.

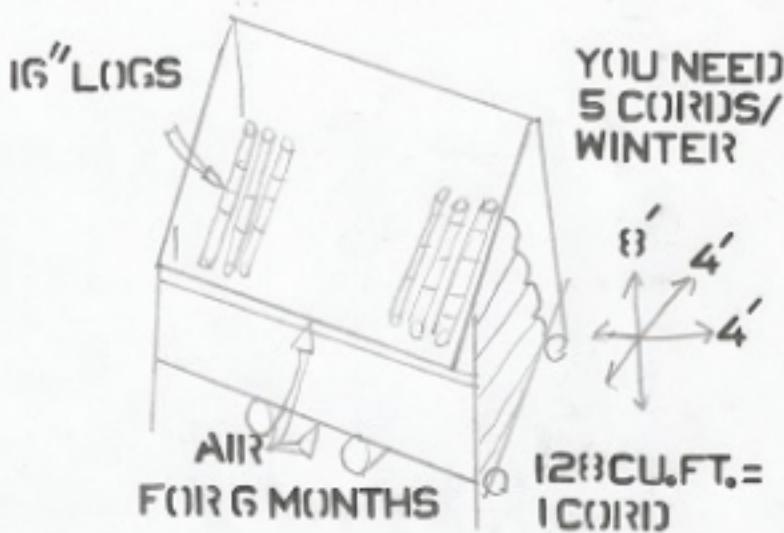
# CHICKEN COOP



FEEDER/WATER

GREENS  
OYSTER SHELLS  
SCRAPS

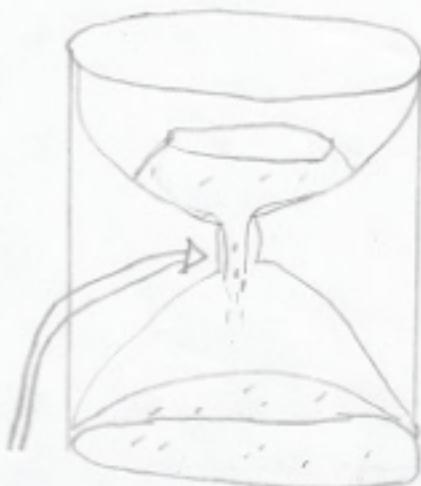
# FIREWOOD



YOU SHOULD REPLANT 1:1.618; HAVE IS  
STALLS (3 YEARS); MAKE A MAP OF THE  
FOREST. DRAW A 30 SQUARE GRID OVER  
THE MAP. HARVEST/REPLANT MOVING  
1 SQUARE PER YEAR; KNOW THE BEST:

APPLE, ASH, HONEY LOCUST, MAPLE, OAK  
AND WALNUT

# SANDGLASS



GRANULE BEAD NEEDS TO BE  $\frac{1}{12}$  UP TO  $\frac{1}{2}$  THE WIDTH OF THE BULB NECK.

FLOW RATE X DESIRED TIME (OF GLASS) = VOLUME (OF SAND NEEDED).

POWDERED MARBLE, TIN OXIDES, BURNT AND PULLVERIZED EGGSHHELLS.

# PLANTING SCHEDULE FALL

DS=DIRECT SOW TS=TRANSPLANT SEEGLINGS  
 SSI=SOW SEED INSIDE

## DENVER

BEANS 6/21-7/21 DS

BROCCOLI 5/10-6/24 SSI TS 6/21-8/5; 6/26-9/6-  
 9/7-10/21

BRUSSEL SPROUTS / CABBAGE = SAME AS ABOVE

CANTALOUPE 6/6-6/21 DS

CARROT DS 7/6-9/4 DS

CORN 6/21-7/16 DS

CUCUMBERS 6/21-7/16 DS

GARLIC 7/21-9/4 DS

PUMPKIN 5/22-6/21 DS

LETTUCE 7/6-8/5 SSI TS 8/5-9/4, 9/21-10/21-  
 10/21, 11/20

MUSTARD 8/5-9/4 DS

ONIONS 9/4-9/14 DS

PEAS 5/22-6/21 DS

PEPPERS 4/30-5/15 SSI TS 6/11-6/26; 7/16-8/27-  
 7/31, 9/11

POTATOES 8/5-9/4 DS

## HOUSTON

9/6-10/6 DS

SPIINACH 6/21-8/5 SSI 7/2-9/4 TS; 9/6-; 10/6-  
10/21 11/20

TOMATOES 4/30-5/15 SSI 6/11-6/26 TS; 7/16-; 8/27-  
7/31 9/11

WATERMELON 5/22-6/21 DS 8/7-9/6 DS

## PLANTING SCHEDULE SPRING

### DENVER HOUSTON

BEANS 4/30-5/28 DS 2/8-3/7 DS

BROCCOLI 2/20-3/5 SSI 4/2-4/16 TS; 11/30-; 1/11-  
12/14 1/25

BRUSSEL SPROUTS / Cabbage = SAME AS ABOVE

CANTALOUPE 4/16-4/30 DS 1/25-2/8 DS

CARROTS 3/19-4/16 DS 12/28-1/25 DS

CORN 4/30-5/14 DS 2/11-2/22 DS

CUCUMBERS / PUMPKINS = SAME AS ABOVE

LETTUCE 2/20-3/5 SSI 3/19-4/16 TS; 11/30-; 12/28-  
12/14 1/25

MUSTARD 2/20-3/5 SSI 4/2-4/16 TS; 11/30-; 1/11-  
12/14 1/25

ONION 2/13-2/20 SSI 3/1-3/31 TS; 11/23-; 12/10-  
11/30 1/9

PEAS 3/1-31 DS 12/10-1/9 DS

POTATOES SAME AS ABOVE

PEPPERS 2/20-3/5 SSI 4/30-5/14 TS; 11/30-; 1/11-  
12/14 1/25

SPINACH 2/20-3/5 SSI 4/2-4/16 TS; 11/30-; 1/11-  
12/14 1/25

SWEET POTATOES 4/30-5/21 DS 2/13-2/29 DS

Tomatoes 2/20-3/5 SSI 4/30-5/14 TS; 11/30-; 2/11-  
12/14 2/22

WATERMELON 4/30-5/14 DS 2/13-2/22

PLANT WHEN  
NO FROST.

157 DAYS T()  
PLANT AND  
HARVEST

316 DAYS T()  
PLANT AND  
HARVEST

STORE  
FOR  
WINTER

# SAVING SEEDS

## DRY SEED

BEANS  
PEPPERS  
CARROT

ALLOW PODS TO DRY AND BROWN AS LONG AS A MONTH AFTER YOUR SUPPOSED TO HARVEST. STRIP THE PODS AND SPREAD THEM OUT TO DRY. LABEL, STORE, USE SEED WITHIN ONE YEAR.

## WET SEED

CANTALOUPE  
WATERMELON  
PUMPKINS



## TO CLEAN

PLACE SEEDS IN A WATER BOWL.  
REMOVE DEAD SEEDS THAT FLOAT.  
DRY LIVING SEEDS ON GLASS INSIDE HOME.

TOMATOES



## TO FERMENT

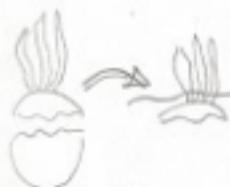
1/2 SEEDS:WATER  
STORE 1-5 DAYS  
UNTIL BUBBLES OR  
WHITE MOLD.

CLEAN.

# SAVING SEEDS

## ONION

CUT OFF THE ROOT  
LEAVING 1-2" OF  
ONION ON THE  
ROOTS. REPLANT.



## SPINACH

HARVEST THE OUTER  
LEAVES. THEY REGROW.



## LETTUCE/CAULIFLOWER

CUT LEAVES 1" FROM  
BOTTOM. PLACE STEM  
IN 1/2" WATER. CHANGE  
WATER DAILY.



## SWEET POTATOES

CUT ONE IN 1/2 AND  
SUSPEND IT ABOVE  
WATER WITH TOOTHPICKS.  
ROOTS AND SPROUTS  
WILL GROW. 4" SPROUTS  
ARE PUT IN WATER TO  
GROW ROOTS. 1" ROOTS  
GET PLANTED IN SOIL.



## POTATOES

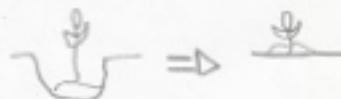
CUT UP A POTATO INTO CUBES. EACH CUBE WITH 2 DARK SPOTS AT LEAST, IS A SEED. CUT CUBES 2 DAYS BEFORE PLANTING.



PLANT 1' APART IN A 4" DEEP TRENCH; SPOT SIDE UP?



WHEN 6" TALL, HOE THE DIRT UP AROUND PLANT.



## CARROTS

CUT THE FLOWER HEAD WHEN IT BROWNS. IT BLOOMS ONCE EVERY 2 YEARS. PLACE IN PAPER BAG AND SHAKE TO RELEASE THE SEEDS.



## GARLIC

WITH PAPER ON THE CLOVE PLANT 4" APART AND 6" DEEP. POINTS FACING UP.



## Winter Stores For Family of Four

BEANS 100 LIBS. DRY POIDS STORE IN JARS.

APPLES 40 GALLONS INDIVIDUALLY  
WRAPPED IN PAPER KEPT AT 32°.

CARROTS 60 LIBS. PACK IN DAMP SANI.

CAULIFLOWER 20 HEADS. PACK IN DAMP SANI.

CELERY 20 HEADS IN BURIED ICE CHEST.

POTATOES 100 LIBS. STORED IN CLOTH COVERED  
BASKETS.

ONIONS 40 LIBS. BRAID AND HANG.

GARLIC 20 LIBS. BRAID AND HANG.

PUMPKINS 10 ON SHELVES

CORN 180 STALKS. ROWS 15' LONG EACH.  
REMOVE HUSKS AND DRY NEAR FIRE 2  
DAYS. STORE IN BASKETS.

# BATTERY (BALGHI, ID)

CLAY POT



SMALL COPPER SHEET  
ROLLED INTO A TUBE.



SOMETHING TO HOLD  
AN IRON ROD, LIKE AN  
ASPHALT STOPPER.



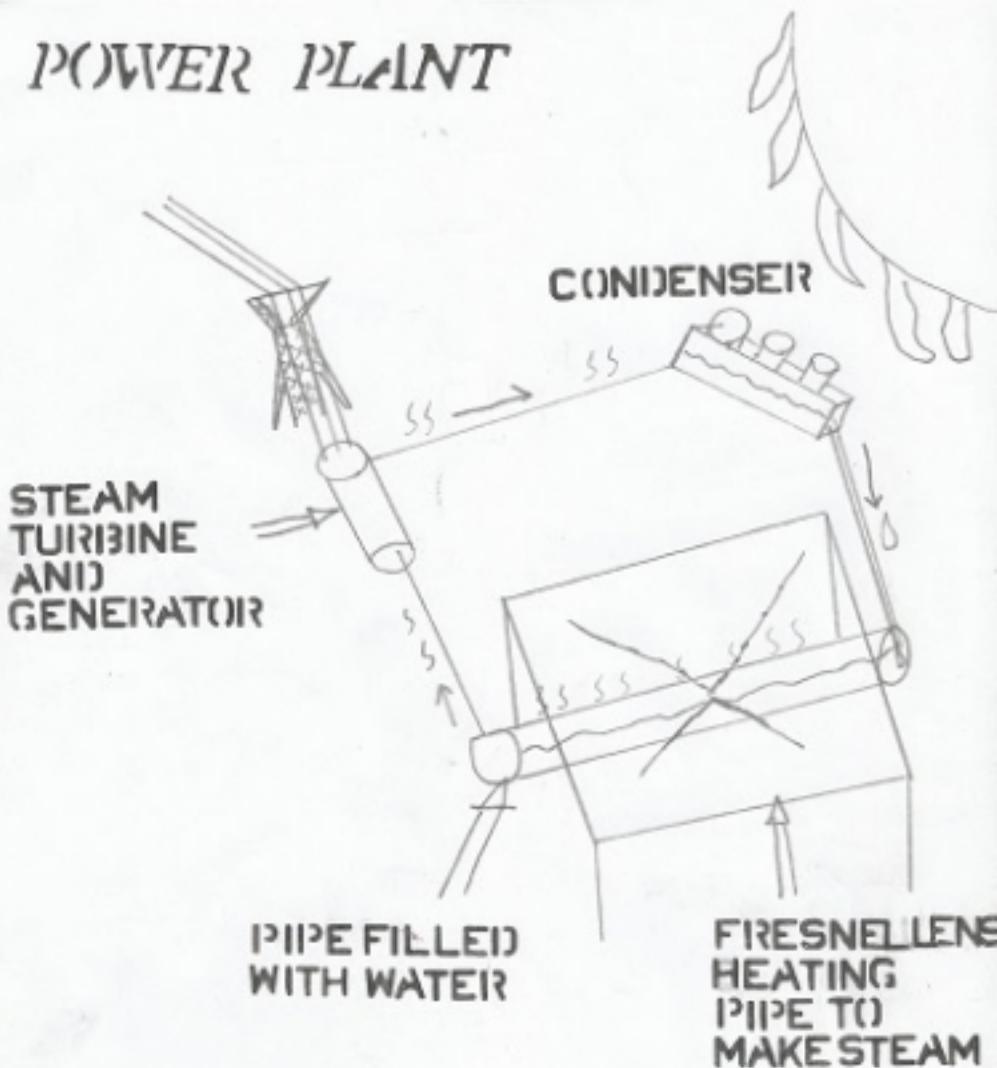
POUR AN ACID INTO POT, LIKE VINEGAR,  
ORANGE JUICE ETC.



COMBINE ALL 3.

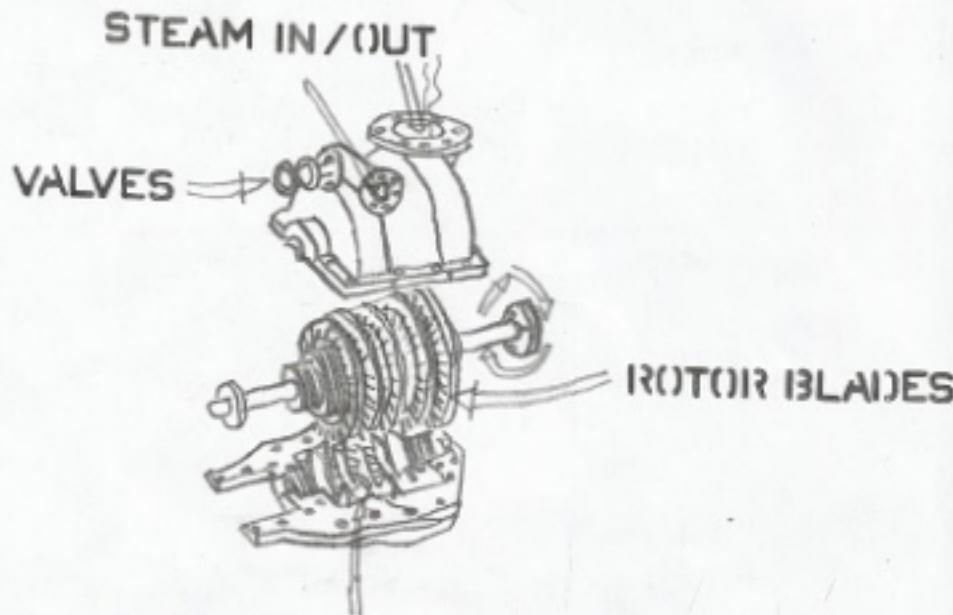


# POWER PLANT



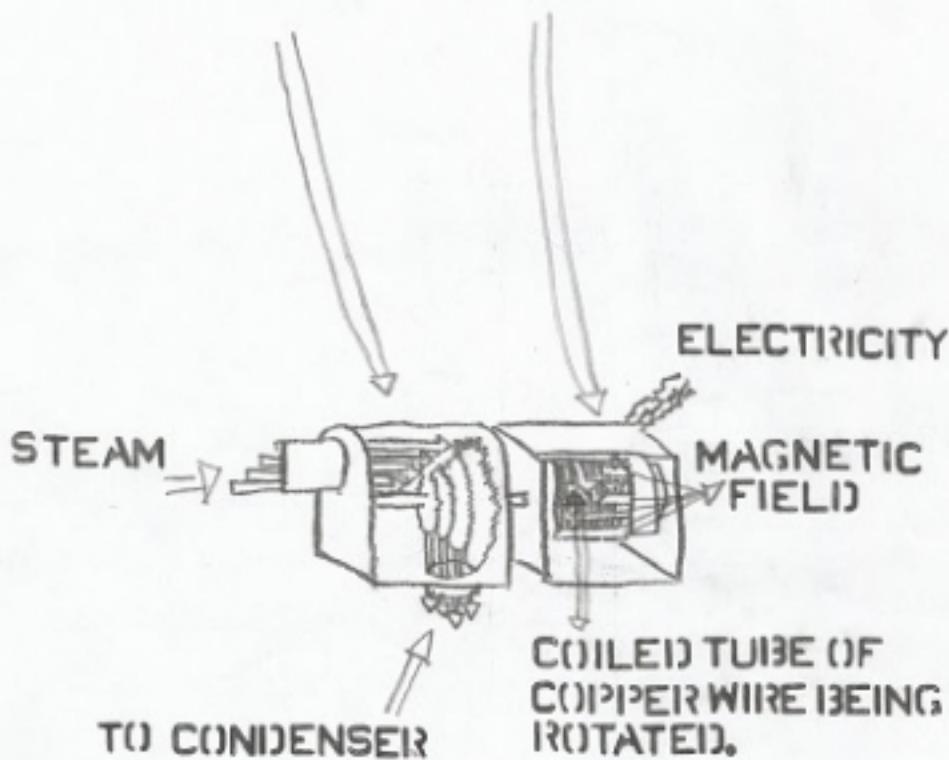
# *STEAM TURBINE*

FLOWING STEAM TURNS ROTOR BLADES WHICH TURNS A ROTOR.



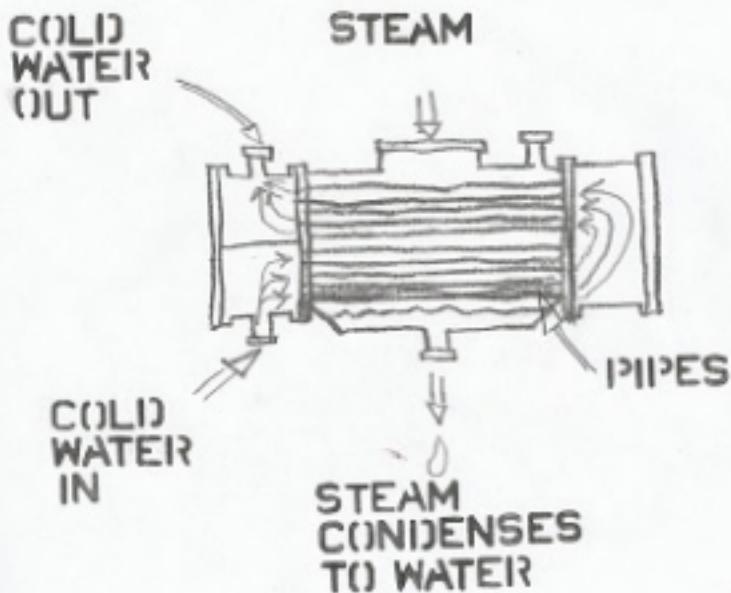
FIXED BLADES THAT DO NOT MOVE  
CALLED STATOIRS.

# TURBINE GENERATOR



# CONDENSER

TURNS STEAM INTO LIQUID

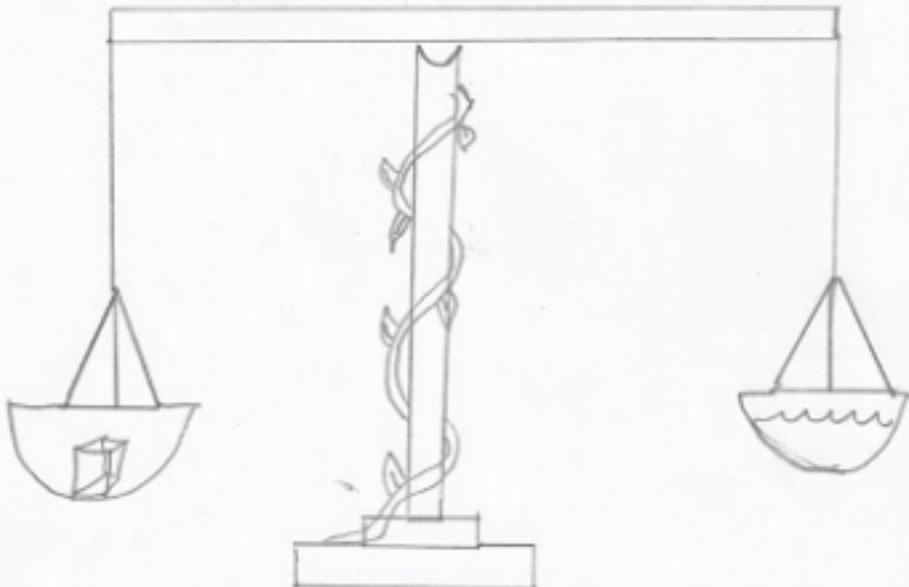


vwt

# PART

2

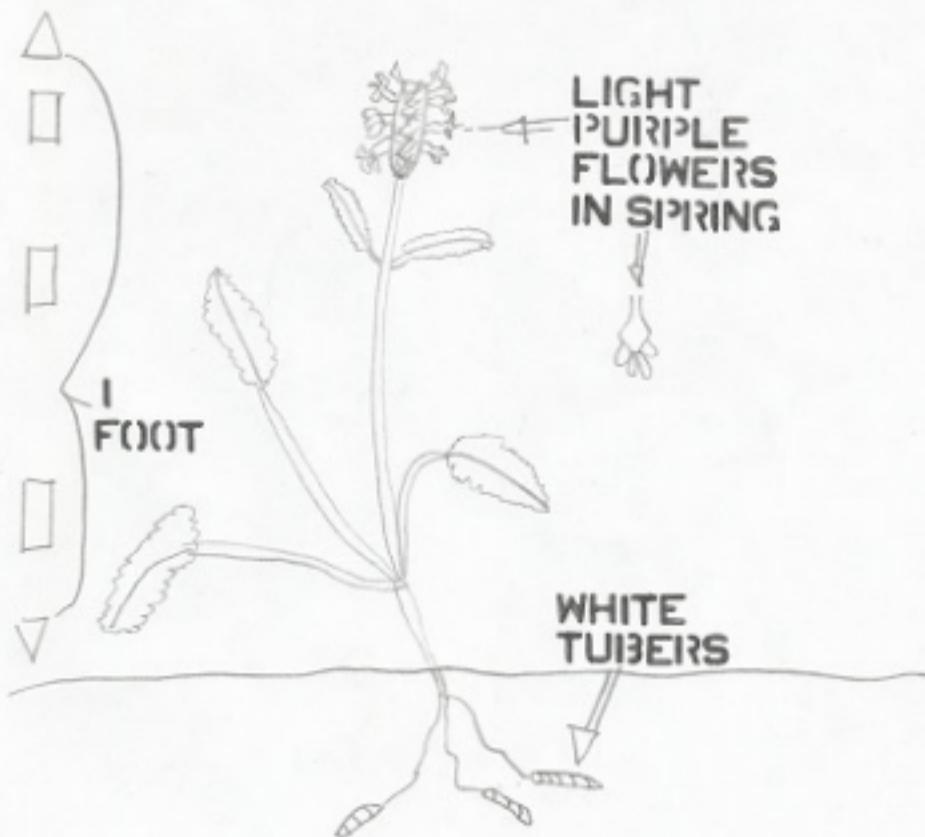
## PHARMACOGNOSY



# COMMON CONDITIONS

## ANTIHEMORRHAGICS:

BETONY LEAVES GROUNDED TO PASTE  
WITH OIL. APPLY PASTE TO BANDAGE,  
APPLY TO WOUND.



# ANTISEPTIC

BOIL A CUP OF WATER.



CUT A YOUNG PINE TREE'S GREEN NEEDLES  
FROM A BRANCH. REMOVE BROWN SHEATHS.  
CHOP NEEDLES.



STEEP FOR 3 HOURS. 1 OZ : 1 CUP



REMOVE

EXTERNAL WASH USE ONLY.  
DO NOT USE INTERNALLY.  
DO NOT CONSUME.

# PAIN "PSEUDO ASPIRIN"

DRIED WILLOW BARK 2 TSP. IN 1 CUP OF  
WATER. SIMMER 15 MIN. STEEP FOR 30  
MIN. DRINK 3 CUPS PER DAY WITH MEALS.

CHILDREN UNDER 16 SHOULD NOT USE  
DUE TO REYE SYNDROME.

USE CAMBIVUM LAYER.

PROLONGED USE CAN CAUSE GI BLEED,  
HARM AND DEATH.

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