

# ZERO

**WASTE CONCEPT**  
**USING 4R 2C APPROACH**



*The River of Life Project by the Department of  
Irrigation and Drainage (DID) Malaysia.*

**Coordinated by:**



# ZERO WASTE CONCEPT

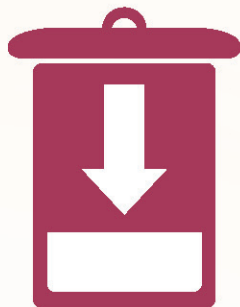
## USING 4R 2C APPROACH

**YOU CAN ACHIEVE A ZERO WASTE LIFESTYLE BY FOLLOWING THESE 3 SIMPLE STEPS!**

### WASTE MINIMIZATION USE LESS!

You do not need to use everything that is given to you. Instead of using several pieces of tissue, just use a handkerchief. Bring your own tupperware to pack food from the stalls or a basket or a re-usable bag instead of using the plastic bags to hold your groceries.

**IT IS AS EASY AS THAT!**



### WASTE MANAGEMENT PRACTICE THE 4R2C CONCEPT!

**RETHINK:** do I really need it?

**REDUCE:** buy less!

**REUSE:** be creative!

**RECYCLE:** papers and the rest!

**COMPOST:** your fruits and veggies!

**CLOSE THE LOOP:** buy recycled items!



### OFFSET YOUR WASTE

**PLANT TREES** or buy carbon credits to offset your carbon emissions produced from your waste!



**MAKE THIS YOUR GOAL TODAY AND TOGETHER,  
WE CAN BUILD A BETTER FUTURE!**

**MAKE A CHANGE IN YOUR LIFE  
MAKE A DIFFERENCE TO THE ENVIRONMENT**



**RECYCLE**

**WAY OF LIFE  
FOR RIVER OF LIFE**

# WHAT IS RECYCLING?

Recycling turns materials that would otherwise become waste into valuable resources and in the process, generates a host of environmental, financial and social benefits.

## WHAT CAN BE RECYCLED?

Here are some of the common household waste that can be recycled.



**RECYCLE ORGANIC MATTER**  
IN THE PRESENCE OF OXYGEN WITH MICRO-ORGANISMS  
**VALUABLE NUTRIENTS RETURN TO THE EARTH**

**BENEFITS THE ENVIRONMENT  
AS A NATURAL FERTILISER  
REDUCE ORGANIC WASTE**



# compost

**CREATING NATURAL FERTILISER  
FROM ORGANIC WASTE**

# COMPOSTING TECHNIQUES

There are different techniques that can be used to make compost. However, the principle or the process involved is still the same. The principle is to have alternate layers of brown and green materials that are covered up by soils.

## FLOWER POT COMPOSTING TECHNIQUE:

### WHAT YOU WILL NEED:

Empty flower pots, green and brown materials, soil, water and a shovel.



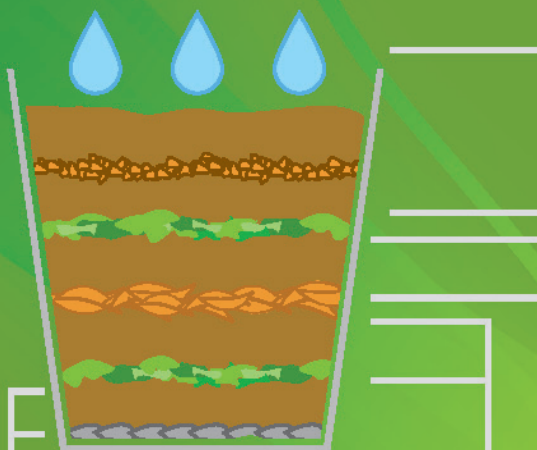
#### **BROWN (wood) materials:**

Dry leaf, twigs, sticks, etc.  
Rich in Carbon



#### **GREEN materials:**

Veggie and fruit peels, etc.  
Rich in Nitrogen



### STEP 1

Put a layer of gravel or stones at the bottom of the pot for aeration. Put a layer of soil (about 2 inches) on top of it.

### STEP 4

At every layer that is covered up by soil make sure to water it (damp). Do this alternately until the pot is full and move to the next pot.

### STEP 3

For the next layer, put in the brown materials and cover loosely with a layer of soil.

### STEP 2

Put in a layer of green materials and cover them loosely with a layer of soil.

Do not compact the soil.

It is important to make sure all holes and crevices are covered with soil to avoid pest and pets from digging up the food.

During the decomposition process, make sure your compost is moist and well aerated. Oxygen is important for your compost in order to avoid the anaerobic process (which produces biogas) from taking place. Once in a while, try to bore some holes into your compost as this allows aeration. Please note that there should not be any bad odour during the process except for an earthy/natural scent. The compost will be ready for use within 4 to 6 months.

**RECYCLE USED COOKING OIL  
BY TURNING THEM INTO SOAP OR CANDLES**

**REDUCE WATER POLLUTION  
AND SAVE THE RIVER**



# SOAP + CANDLE MAKING

**GIVE NEW LIFE  
TO USED COOKING OIL**

# HOW TO MAKE CANDLES

## WHAT YOU WILL NEED:

200g used cooking oil  
15g oil solidifying agent  
20 drops of aromatic oil  
Aluminium / tin can mould  
A string / cord to be used as a wick

## WHAT DO YOU NEED TO DO:



Heat a frying pan on the stove and add the used cooking oil.



Add the hardening agent as soon as the oil is heated up.



Start stirring until the crystals dissolve, then transfer the liquid into the mould.



Quickly place the wick into the liquid, leaving behind a length above the liquid. Make sure it does not fall in.



After the liquid has hardened in 20-30 minutes, you can snip the wick a little shorter to make it look neat and the candle is ready to be used.

# HOW TO MAKE SOAP

## WHAT YOU WILL NEED:

100g used cooking oil  
50g water  
25g Sodium Hydroxide  
A 500ml plastic bottle  
Mould

## WHAT DO YOU NEED TO DO:



Sieve the cooking oil into a mixing container to remove any particles. Add the water.



Add sodium hydroxide and shake the bottle until the crystals dissolved. You may add pandan or lemongrass juice for scent.



Once the liquid is mixed well, pour the solution into the mould.



Leave them for 3-4 days to harden.



The soaps are ready to be used.

PREVENTS DRAINPIPE BLOCKAGE  
MULTIPURPOSE NATURAL  
HOUSEHOLD CLEANERS

**PURIFY** THE WATER  
THE AIR  
NATURAL PESTICIDE



# GARBAGE enzyme

**FERMENTED WASTE JUICE  
FROM KITCHEN WASTE**

# HOW TO MAKE GARBAGE ENZYME

## WHAT YOU WILL NEED:



### WATER



### FOOD SCRAPS

(vegetables and fruit skins: apple, orange, pineapple, pear, watermelon, grape, lemon, guava etc but do not use durians). Never use any kind of meat!

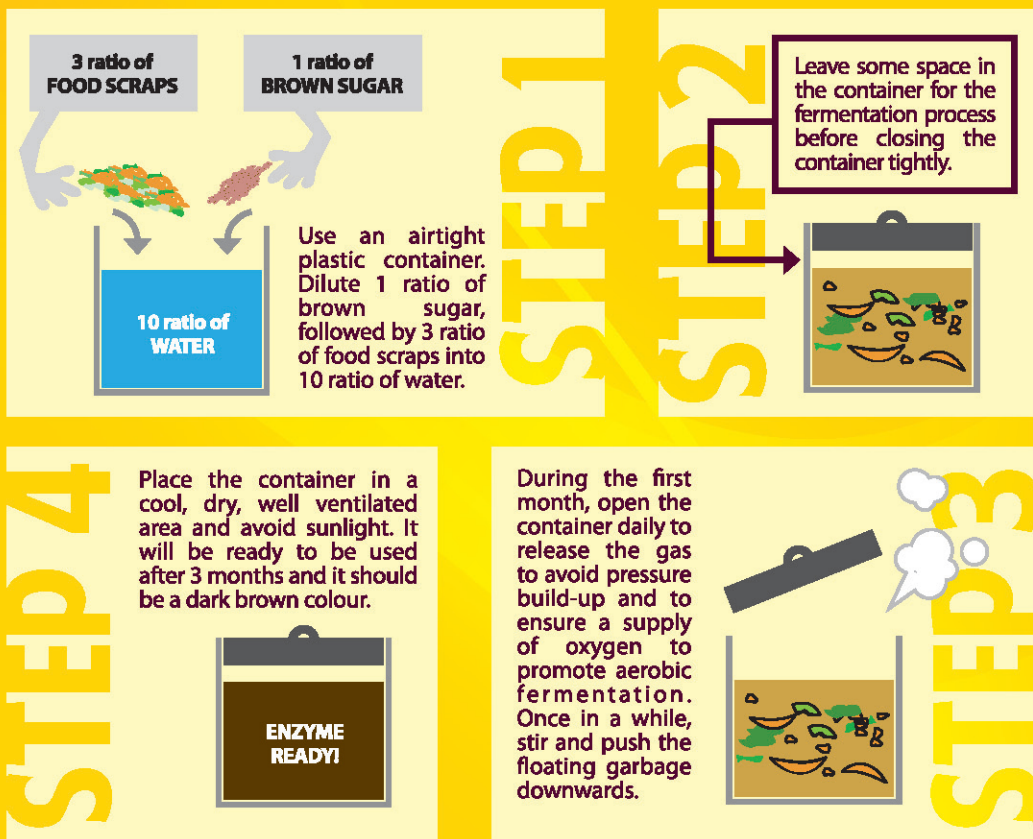


### JAGGERY OR BROWN SUGAR

Use brown sugar. Never use white sugar.



## WHAT DO YOU NEED TO DO:



### NOTE:

Avoid using too much orange or lemon peels as it will be too acidic and will kill the good bacteria needed for the fermentation to start.

If the enzyme is black, add in the same amount of sugar and start the fermentation process again.

Fully utilise the residues by reusing it for the next production by adding fresh scraps, use as fertilizer by drying and grinding, pour into the toilet bowl, or add some brown sugar and flush to help purify the sewage.

The longer the enzyme ferments; the better it is and the best part is, it never expires!

Never store the garbage enzyme in the fridge.