

# **25<sup>TH</sup> NATIONAL CHILDREN'S SCIENCE CONGRESS**

## **FOCAL THEME**

**SCIENCE , TECHNOLOGY AND INNOVATION  
FOR SUSTAINABLE DEVELOPMENT**

**GUIDE TEACHERS TRAINING PROGRAMME**

**Date: 05.10.17 to 06.19.17    Venue: APSA College**

# SUB THEMES

- I. Natural Resource Management**
- II. Food and Agriculture**
- III. Energy**
- IV. Health, Hygiene & Nutrition**
- V. Lifestyles & Livelihoods**
- VI. Disaster Management**
- VII. Traditional Knowledge Systems.**

# THINGS TO REMEMBER

- 1. Relevance to the theme**
- 2. Your area based study**
- 3. Originality**
- 4. Team work**
- 5. Some Photographic evidence**
- 6. Innovative practices**
- 7. Exploration of unknown factors**
- 8. Simple report preparation**
- 9. Stake holders participation**
- 10. Awareness generation**

**1. HAVE A NEW VISION**

2.SIMPLE

3.REPLICABLE

4.LOCATION SPECIFIC

FOCAL THEME -1  
NATURAL RESOURCE  
MANAGEMENT

# NATURAL RESOURCES IN GENERAL

1.WATER

2. AIR

3.LIGHT

4.SOIL AND ROCKS

**5.BIODIVERSITY**

**PLANTS**

**ANIMALS**

**MICROBES**

# PROJECT IDEAS

# Biodiversity Web

**Energy from the sun**

**Energy from the sun**

**CO<sub>2</sub>**

**O<sub>2</sub>**

**Fruit Bat**

**Eats Nectar**

**Collared Sunbird**

**Nests in trees**

**Pemba Green Pigeon**

**Seeds Dispersed**

**Southern Giant Pouched Rat**

**Dove**

**Skink**

**Fly**

**Fly Larva feeds on Faeces**

**Mammal Faeces**

**Fungi**

**Nutrients**

**Seedlings**

**Rotting leaves release nutrients**

**Cassava Mealybug**

**Sucks Sap**

**Ant**

**Eat sweet liquid**

**Snail**

**Mud Wasp**

**Spider**

**Gecko**

**Dickinson's Kestrel**

**Pollinate flowers**

**Insects**

**Mud used to build nest on old leaves**

**Fruit**

**Palm Tree**

**Nectar**

**CO<sub>2</sub>**

**O<sub>2</sub>**

**Energy from the sun**

**www.sazaniassociates.org.uk**

**Supporting Sustainable Livelihoods in Zanzibar**

**CASA**

**UKaid**

**Comic Relief**

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# STUDY ON SOIL MACROFAUNA

Macrofauna are defined as being larger than 2mm in size.



## **PROJECT IDEA -1**

Take one sq.m. soil sample from 5 places at random

Dissolve in water

Sieve with 2mm

Count total number of animals

Classify types of animals

Compare with organic farms and chemical fertilizer applied farm

# PROJECT IDEA-2

## COMPARE SOIL MACRO FAUNA AND SOIL FERTILITY

Estimate soil macro fauna with soil quality  
pH, Ec, NPK, organic carbon, C and N ratio

# PROJECT IDEA -3

## BIOPHARMACY

### Medicinal Plants



# PROJECT IDEA -4

## STUDY WATER QUALITY MANAGEMENT

*Strychnos potatorum*



**INNOVATION NEED NOT BE SO  
BIG**



**Opuntia ficus-indica**

*Healthy and Delicious Exotic Fruits!*



**BUY 2, GET 1 FREE!**



## PROJECT IDEA-5



STUDY PHYTO CHEMISTRY

# PROJECT IDEA-5



## Soil quality



## PROJECT IDEA-6



**Study the performance of different crops  
on different types of soil**

**OR**

**Find the suitable crop for the problematic soil**

# FOOD AND AGRICULTURE

# PROJECT IDEA -7

- Food security – Junk food
- Select samples from street food
- Estimate LDL and HDL etc.

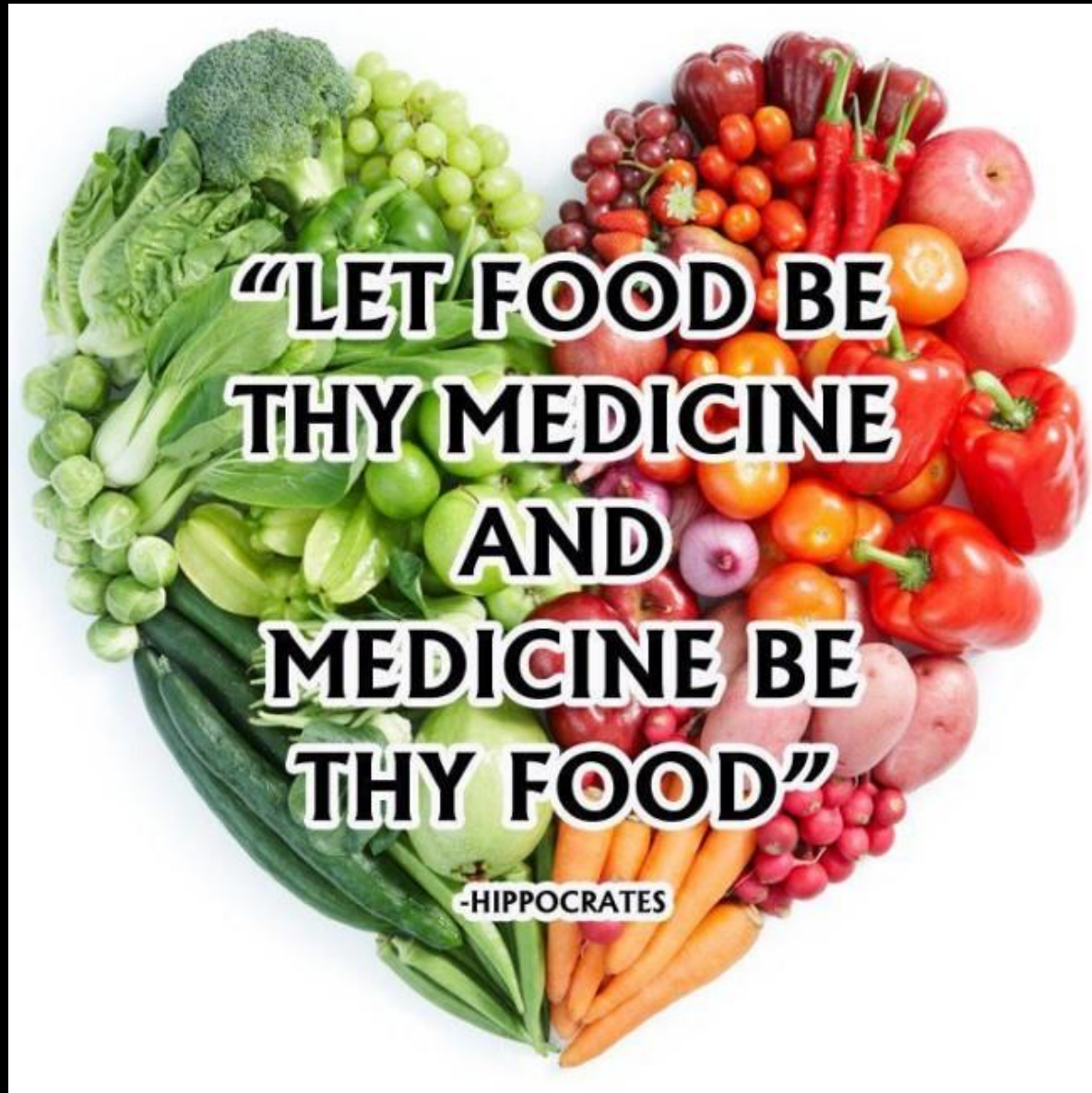


# PROJECT IDEA -8

- ESTIMATE NUTRIENTS IN SPROUTING SEEDS AND COMPARE WITH UNSPROUTED SEEDS



**PROJECT IDEA -9**  
**LET FOOD**  
**BEE THY**  
**MEDICINE**  
**& LET**  
**MEDICINE**  
**BEE THY**  
**FOOD**



ENERGY

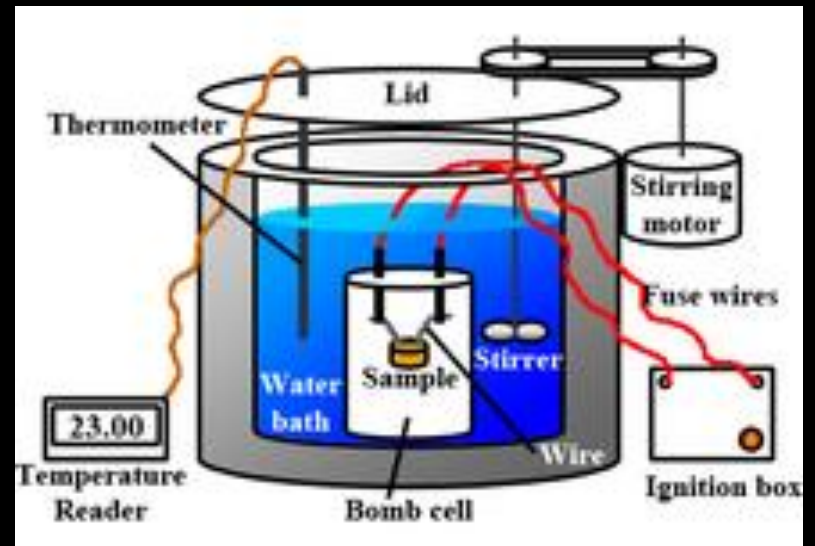
## PROJECT IDEA -10

Estimate the calorific value (energy content ) of different food stuff using

Bomb  
Calorimeter



# Bomb Calorimeter



HEALTH, HYGIENE AND NUTRITION

# PROJECT IDEA -11

## Antimicrobial properties of Copper Vessel

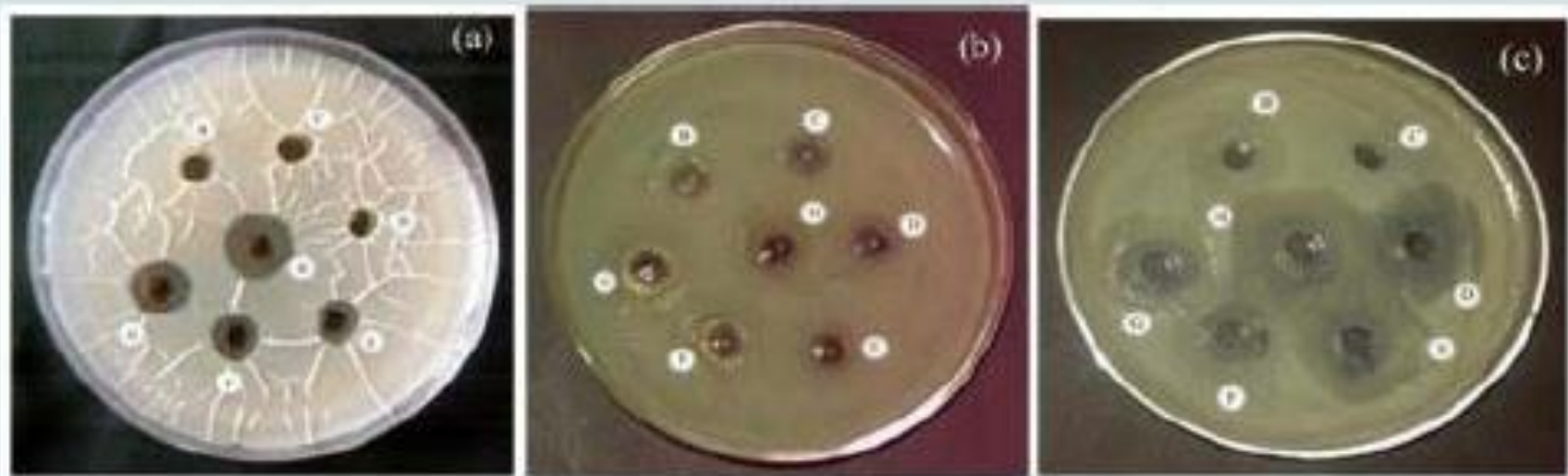
**Here Is Why You  
Should Drink Water  
From A **COPPER CUP**  
Every Morning on  
an Empty Stomach**



### DRINK WATER FROM COPPER CUP

1. kills bacteria
2. Stimulates your brain
3. Regulates the working of the thyroid gland
4. Beats arthritis and inflamed joints
5. Skin health and melanin production
6. Slows down ageing
7. Helps the digestive system perform better
8. Beats anaemia
9. Helps heal wounds faster
10. Helps maintain cardiovascular health and beats heart disease
11. Can fight off cancer





**Figure 21:** Antibacterial activity of CuO nanoparticles at different concentrations against *K. pneumoniae*, *S. typhimurium*, and *E. aerogenes* as a, b, and c, respectively.

# PROJECT IDEA -12

## CONDUCT MEDICAL CAMP AND FIND ANEMIC STUDENTS



# PROJECT IDEA -13

## **Type 1**

### **Diabetes in Children**

**Commonly Known as  
Juvenile Diabetes, is a Condition in  
Which the Pancreas Produces  
Little or No Insulin**

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HEADACHY

HUNGRY

SWEATY

CONFUSED

SHAKY

DIZZY



GRUMPY

# PROJECT IDEA -14

## PROBIOTICS



# LIFESTYLE AND LIVELIHOOD

# PROJECT IDEA-15

## TRADITIONAL FOOD AND MEDICINE



# TRADITIONAL KNOWLEDGE AND SUSTAINABILITY

# PROJECT IDEA -16

## CALOTROPIS



# PROJECT IDEA -17

## A TRADITIONAL CULTURE FOR INDIRECT SEED TESTING



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THANK YOU