

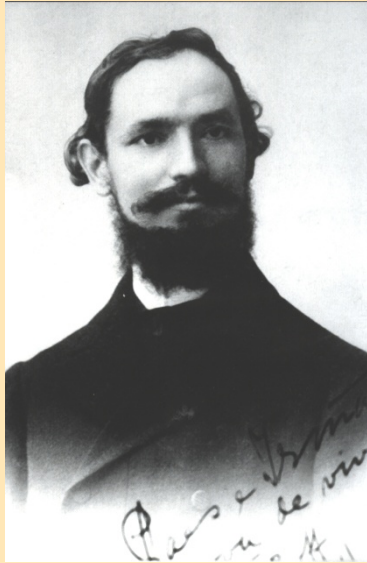
# **Cocción de Alimentos con Energía Solar: Resultados de una década de experiencia intensiva de utilización y de diseminación.**



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**Jornada de Cociñas Solares, 10 de mayo 2018, EII-Universidad de Málaga**

**Padre Himalaya  
Portuguese Priest,  
Pioneer on Solar Energy**



## **Pirelióforo ( year 1904)**

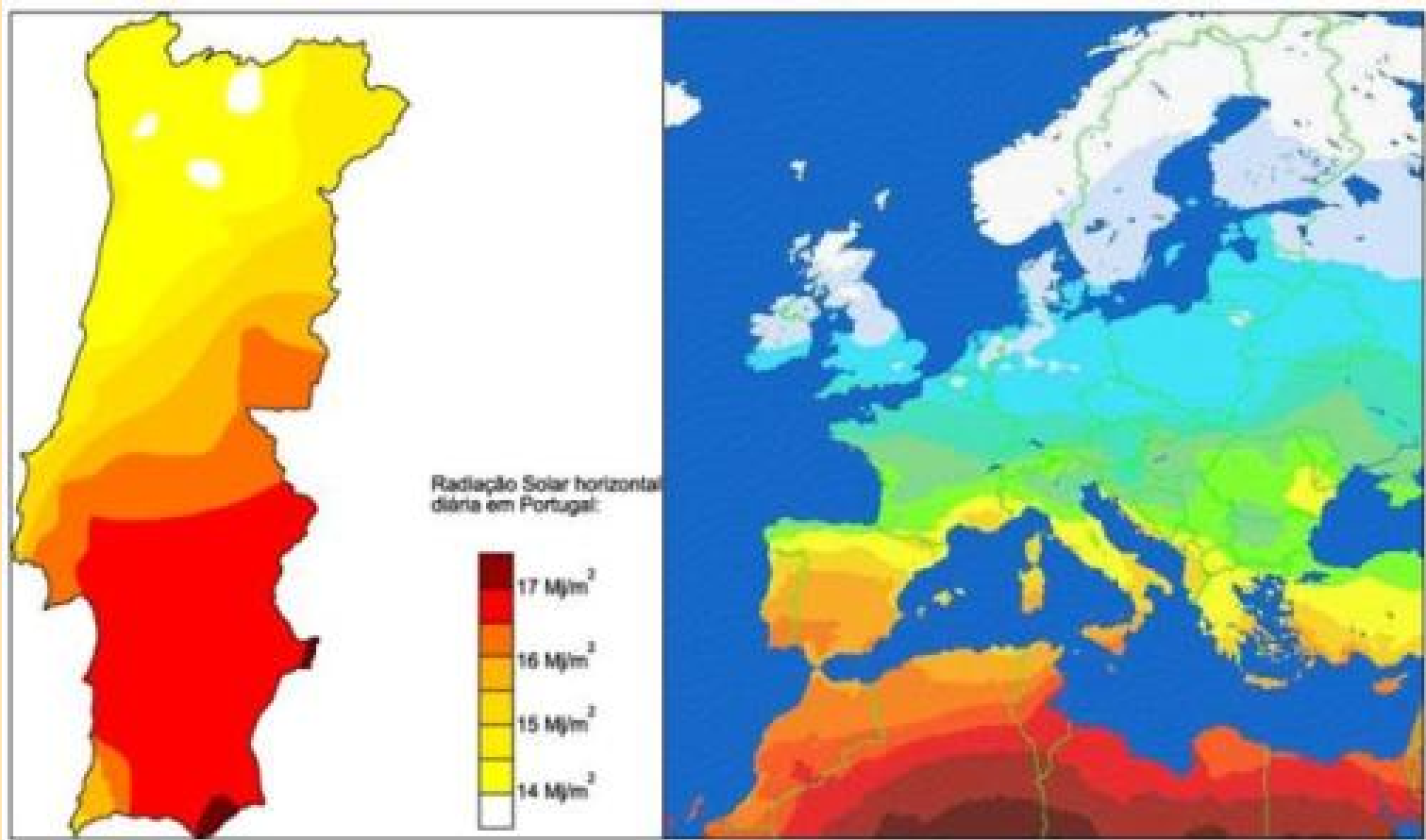


**Pirelióforo, a device in which thousands of mirrors over a surface of 80 square meters concentrated solar energy up to a temperature of 3500 °C**

**The huge installment was a star in the 1904 Universal Expo of St. Louis USA, where it won two gold medals.**

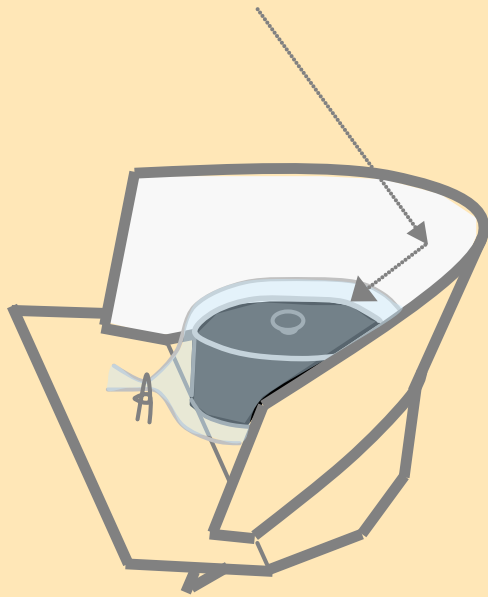
# *Solar Radiation*

**Average number of sunny hours per year in Portugal: 2200 to 3000**

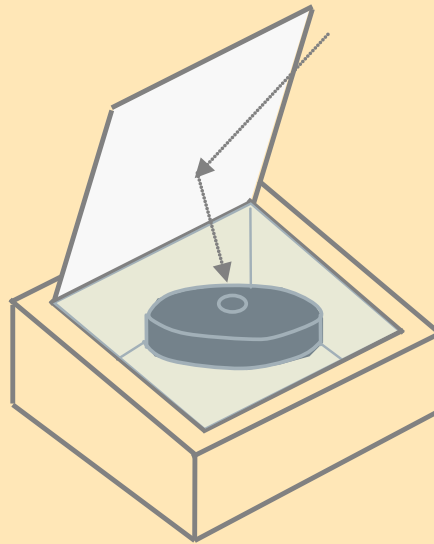


**Faro ( my house)**

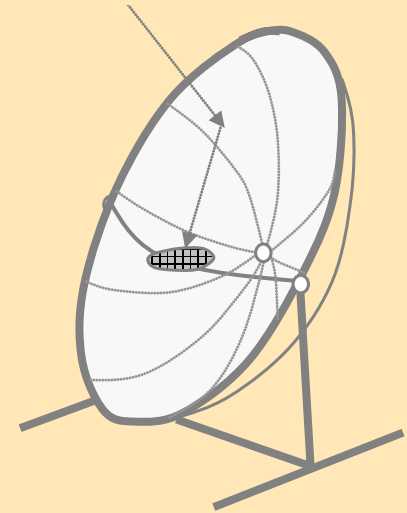
*Lesson learned from the solar cooking  
international conference, July 2006  
Granada-Spain*



***Pannel***



***Box***



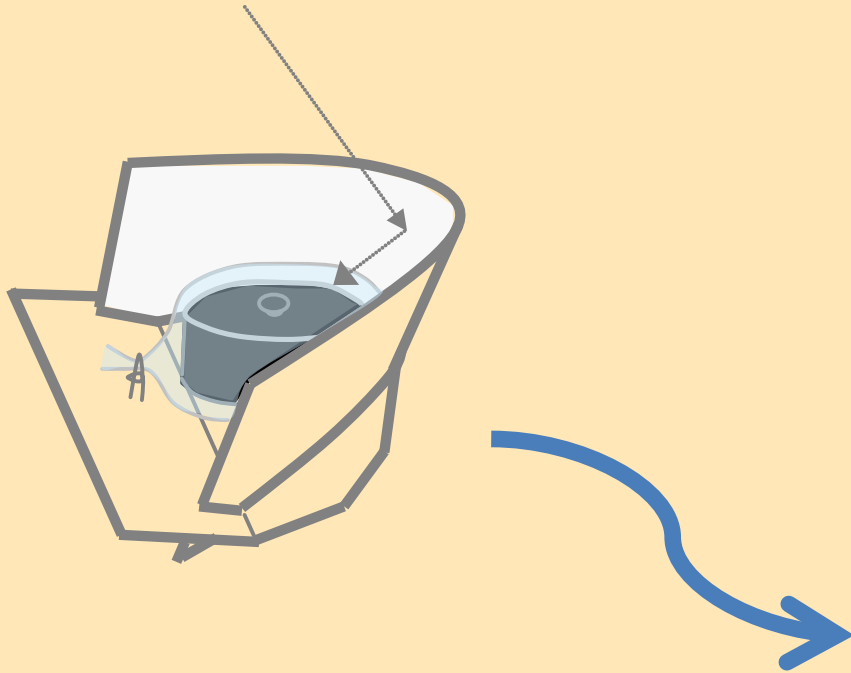
***Parabolic***



**Why the pot is black?**

**Why is a transparent cover necessary ?**

## *Solar Cookit - Optimised versions*



Extra reflector for better performance during winter

Cardboard replaced by plastic corrugated sheet

Greenhouse effect:  
plastic bag replaced by glass pieces



# Funnel cooker do it yourself

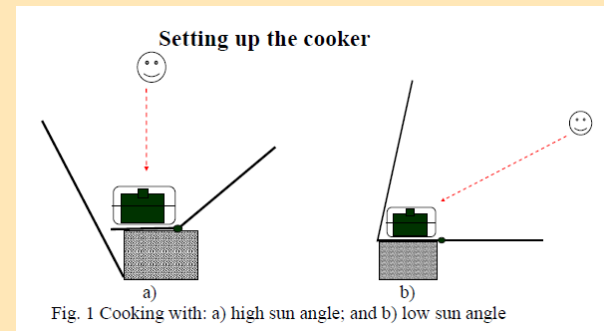
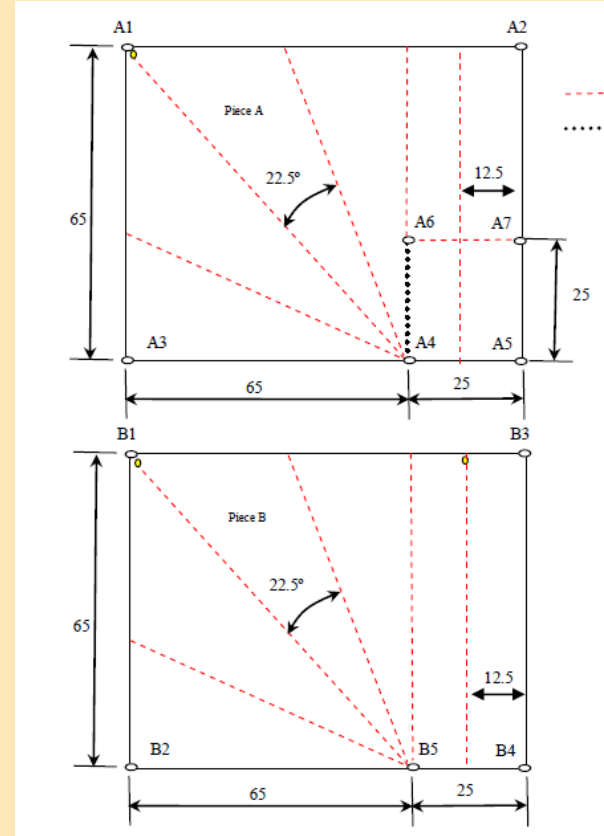


Fig. 1 Cooking with: a) high sun angle; and b) low sun angle

# *Solar funnel concrete cooker*



# *Parabolic solar cookers*



*ALSOL14*

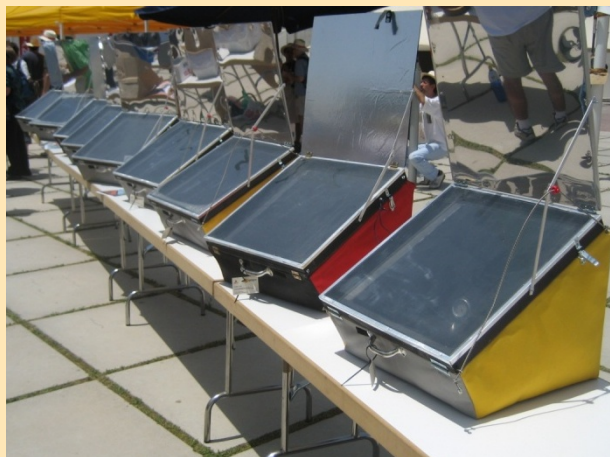


*ARTESOL (Pedro Serrano, Chile)*



*PRINCE15 (Ajay Chandak, India)*

# Box cookers



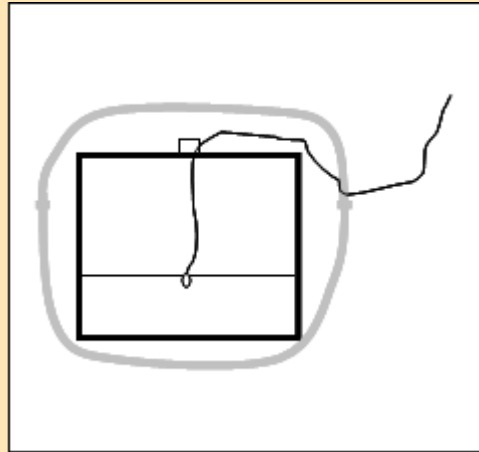
# *Parabolic cooker ARTESOL*



# *Parabolic cooker ARTESOL*

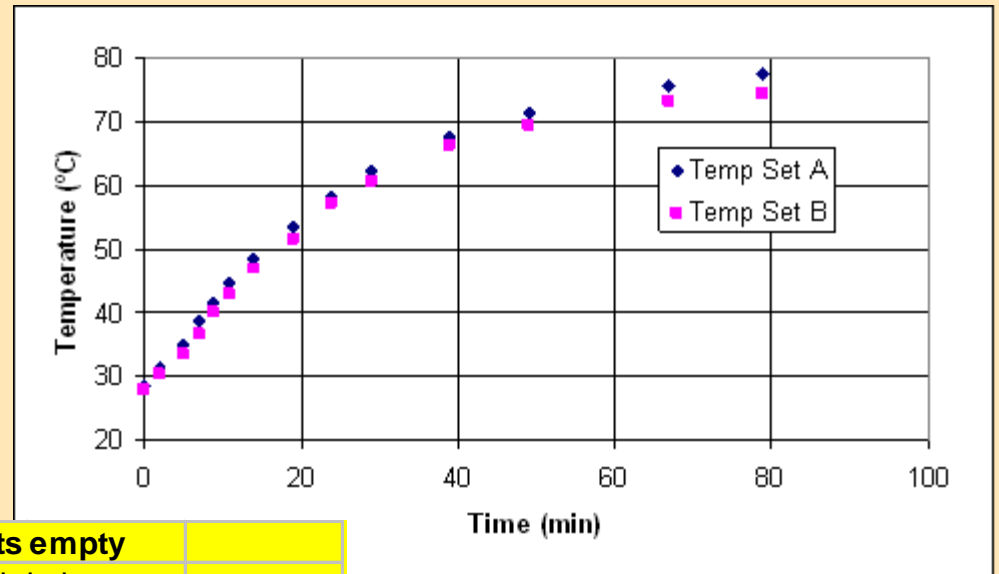


# Testing funnel cooker versus Lightoven



	Set A	Set B
	Mass (g)	Mass (g)
Pot	1111.1	1105.9
Glass pieces	1292.4	1265.4
Total mass	2403.5	2371.3

outside air temperature: 13.2 to 14.6°C



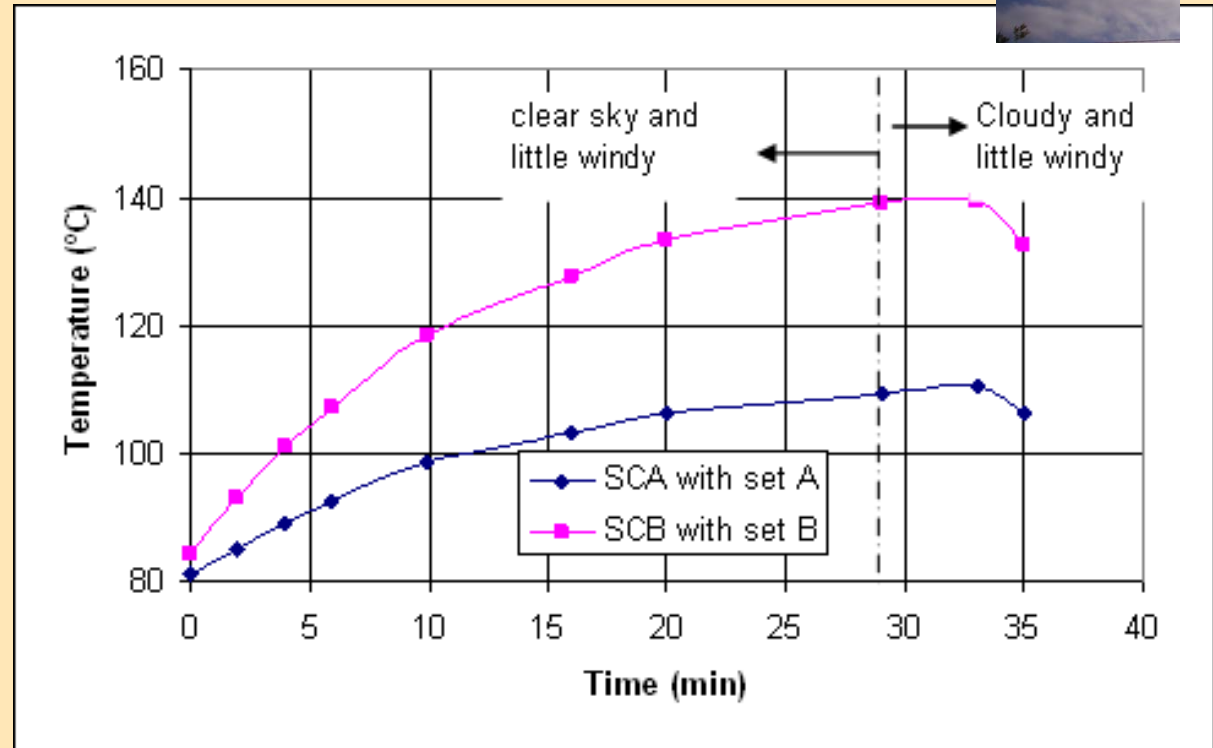
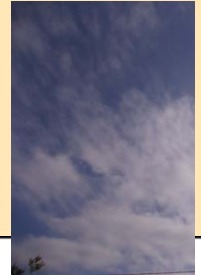
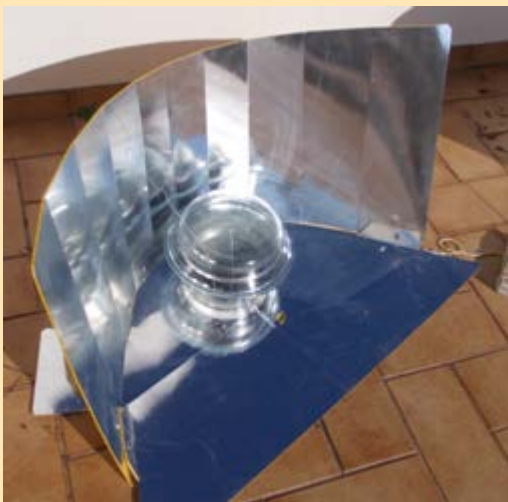
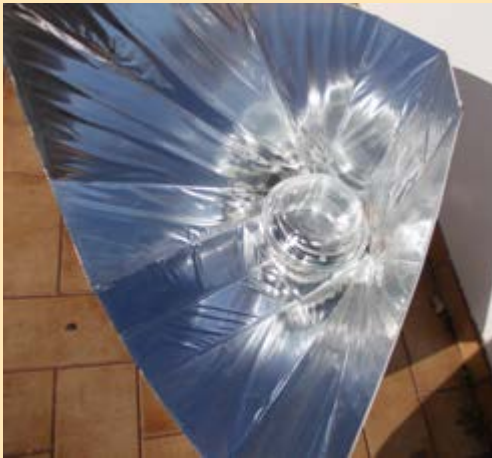
## December 2014

### Conclusions of the test without reflectors and pots empty

Boths sets A and B are quite similar, set A is just a little better

The main goal of this test was to verify that both sets A and B are similar

# Testing funnel cooker and Lightoven cooker



# Public solar cooking activity



The importance of a diverse and balanced diet.  
The ecological production of food.



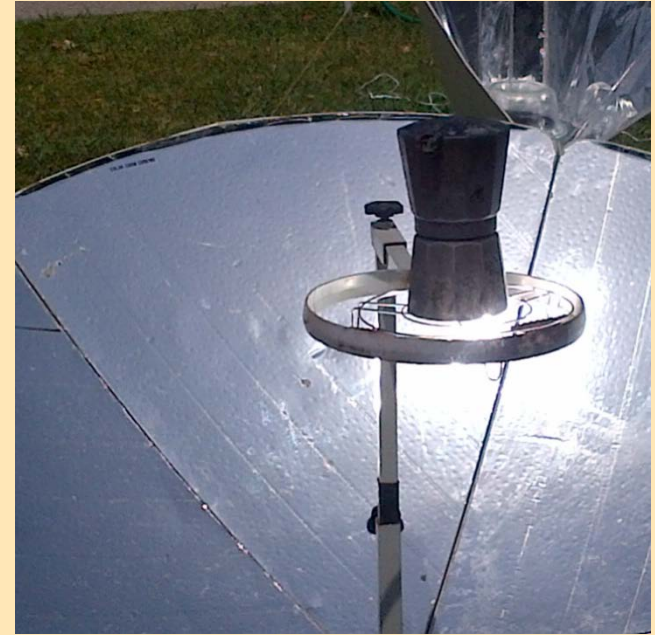
Use of non-disposable plate, cup and cutlery.

# Learning through the senses

## Observing



## Hearing



## Touching...



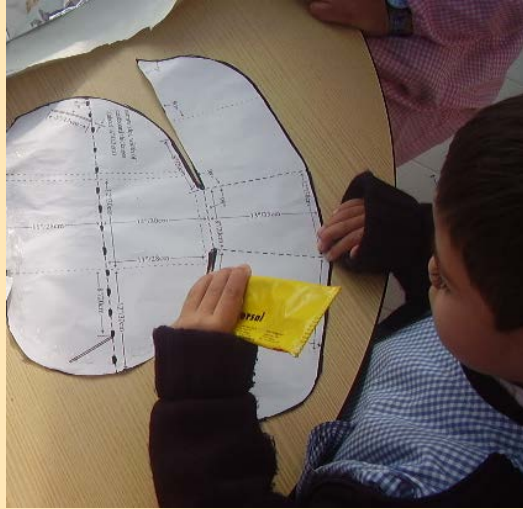
## Smelling



## Tasting



# Workshops for children



# *Birthday parties*

*Beatriz (Faro, 3rd August 2006)*



*Solar chef (Faro, 24th Jan 2015)*

# International events





**What can we  
cook with the  
sun?**

**Everything!!**





## Starter dishes



# Bread Pizza Rice Pasta





# Omelets





# Vegetables





# Meat & Fish





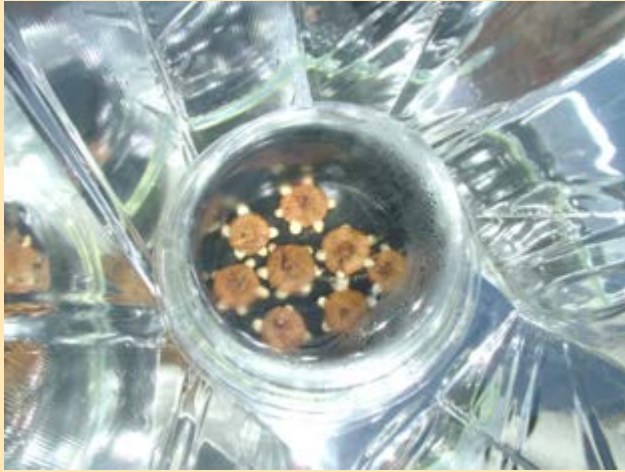
## Desserts



# *Solar carob cake baked around the world*



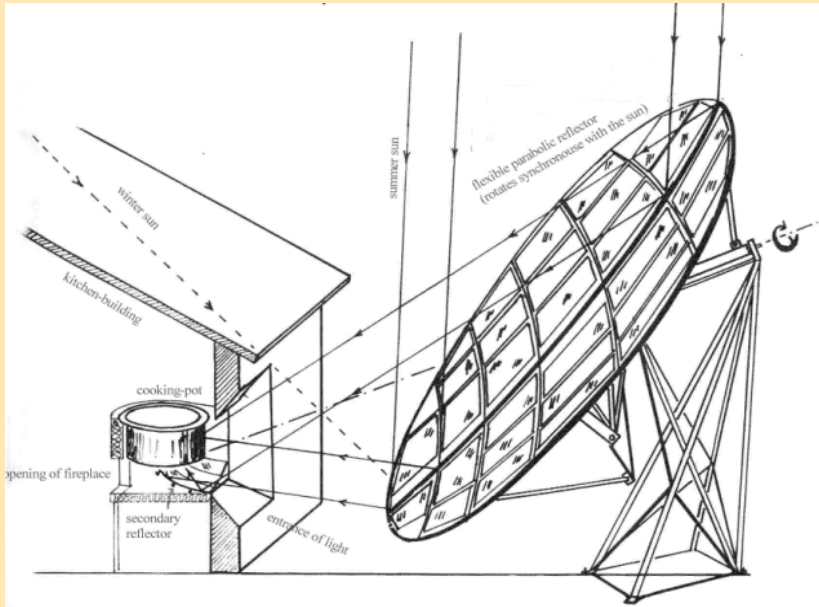
***Traditional products: stars of figs and almonds***



***Innovative products: bread with salicorn plant***



# *Cooking inside with reflector Scheffler system*

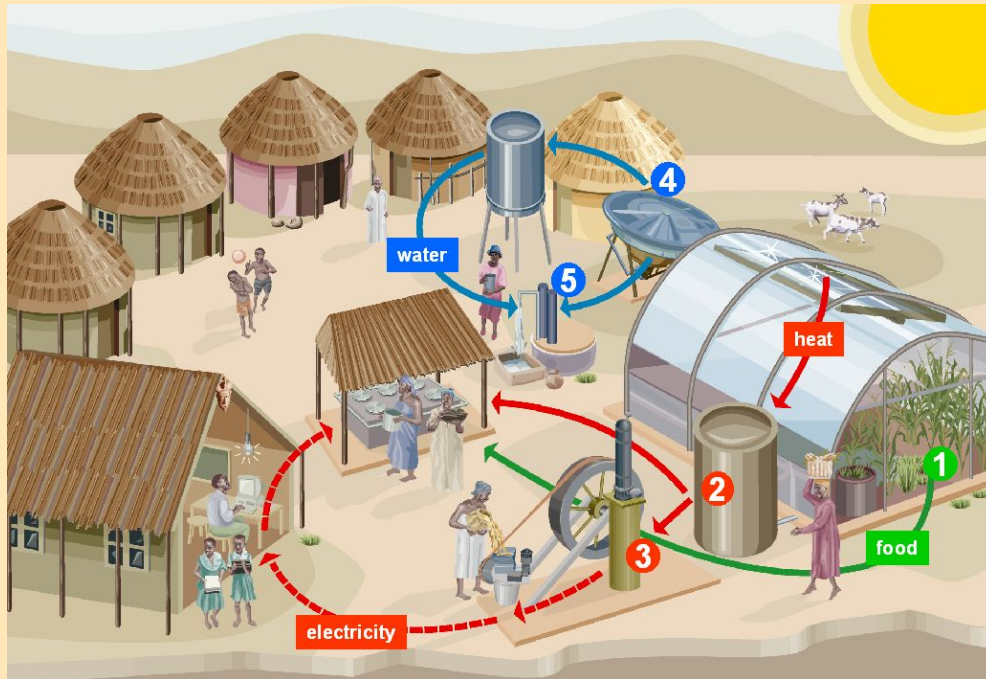


***Small Canteen***



***Large Canteen***

# *Solar Village- Test field of Tamera-Portugal*



***heat storage:  
possibility of cooking at night***



## *Solar restaurant in Chile*



*Fast and slow cooking*

# ***Cooking daily at home***



***Long life: good resistance against wind and rain***

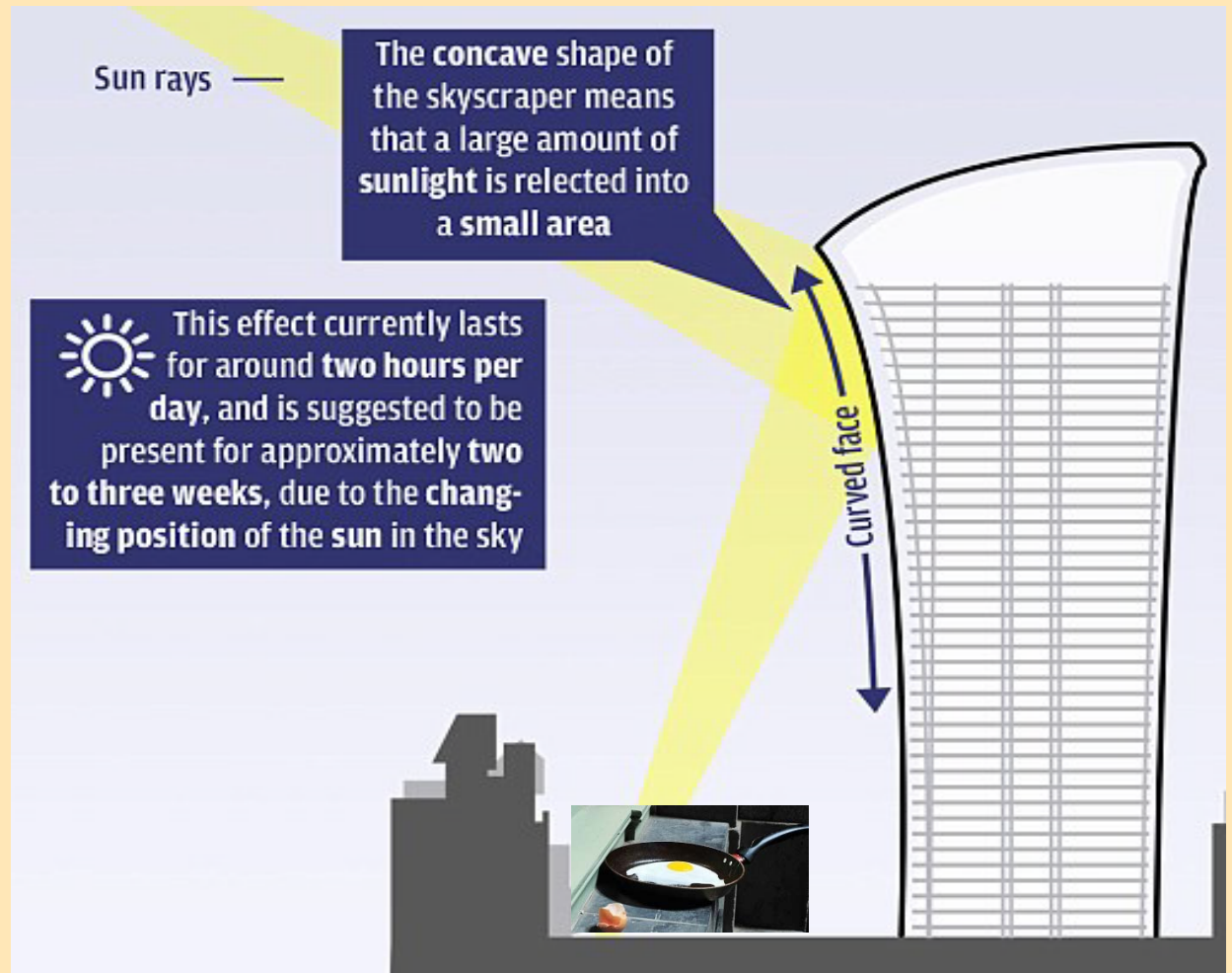
***Use: easy and intuitive***

***Fast and slow cooking***

# *Cooking in open public areas*



# Cooking in open public area (Street in London!!!!)



# A simple evolution



Caja



Casa

Solar cookers are a delightful teaching tool to introduce students and people in general into the exciting world of renewable energy while analyzing numerous science, environmental and social issues.

# Is solar cooking feasible?

It depends on several factors .....

Do you want to learn how to cook?

Are you interested on it?



**Muito Obrigado**

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