



# Green Schools Network

## ACTIVITY SHEET

December 2011

### Why talk about Cooking Oil



According to the World Health Organization (WHO), 2.6 million Indians die due to coronary heart diseases. As many as 30 million Indians are overweight. Wondering why? What is the one most common cause for these dreaded diseases? Yes, you got it right—the oil in which we cook our food. Our body has a minimum 'fat requirement' and what happens if we feed it fat in excess? Increased intake of fat, a majority of which comes in the form of cooking oil, leads to a plethora of diseases including high cholesterol and high blood pressure. Unfortunately, not much heed is paid to this harsh reality and it is for this reason that we need to take a close look at cooking oil.

Name .....

School Name .....

Class ..... Date .....

#### Gobar Gyan

Most of us think that Indian cooking is not possible without oil. Remember the aroma of bay leaves or curry leaves when they simmer in oil? Most of us believe that food tastes better with more oil—paranthas with extra butter or even butter masala dosa. But have you ever wondered

why oil is such a vital part of our daily consumption? Well, nutritionists recommend that no more than 10 per cent of a person's daily calories should come from fat.



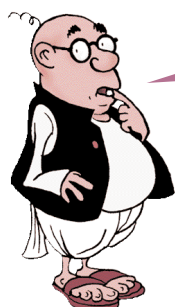
***Cooking oil is any fat that is used for cooking and is usually a liquid at room temperature***

It is important to understand fat/s.

- ♥ Fats are the main source of energy for our body to grow.
- ♥ Fats are important as they provide fatty acids and good cholesterol needed to form cell membranes in organs.
- ♥ Fats help in maintaining healthy hair and skin. Do you know that organs such as the retina and the central nervous system are mainly composed of fats?
- ♥ Fats provide essential fatty acids for growth and help absorb fat-soluble vitamins like Vitamin A, D, E and K.

Fats are broadly of two kinds: Saturated and Unsaturated.

- Saturated fatty acids have no double bonds between the individual carbon atoms of the fatty acid chain. Main sources of saturated fat are animal products, red meat and whole-milk dairy products. Yes, these include the delicious cheese, yummy ice cream and butter.
- Unsaturated fat has at least one double bond within the fatty acid chain. A fat molecule is monounsaturated if it contains one double bond and polyunsaturated if it contains more than one double bond. Polyunsaturated fat can be sourced mostly from nuts, seeds, fish and algae.



*Hi! I am Pandit Gobar Ganesh.  
You will find me in Gobar Times—a magazine  
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## Activity 1

Your health depends on what you eat – isn't it true? Is your diet loaded with sugars, high carbohydrates and man-made oils and fats? Doctors suggest a mix of fats in the diet to maintain a healthy balance of fatty acids. Let us track the amount and kinds of fat (in the form of oil) consumed by a typical family. Why not initiate from our own home? Once you are done reviewing your family's diet, talk to five neighbours and compare the data.

Find out the monthly consumption of cooking oil in your family as well as five neighbouring houses.

Sr. No	No. of family members	Amount of oil consumed in a month (in litres/gms)	Type of fatty acids	Expenditure (INR)
1.				
2.				
3.				
4.				
5.				

$$\text{Amount of oil used per day by one family} = \frac{\text{Total amount of oil used in a month}}{\text{No. of days in that particular month}}$$

$$\text{Consumption of oil by each member} = \frac{\text{Oil used in a day}}{\text{Number of family members}}$$

What will be interesting to analyse is whether the expenditure incurred on oil is justified or not. Whether that oil is healthy for your family or not? Will it promote good health? Let us do the calculations. The table given below gives you details about some of the common cooking oils used in India. You may wish to find out similar details about the oil your family is using.



Type of oil	Calorie per tbsp	Total Fat (g)	Saturated Fatty Acids (g)	Monounsaturated Fatty Acids (g)	Polyunsaturated Fatty Acids (g)
Sunflower	120	13.6	1.401	8.935	2.652
Mustard	124	14	1.621	8.286	2.972
Vegetable oil	120	13.6	1.716	4.591	4.591
Coconut oil	117	13.6	11.76	0.245	0.789

\*one tablespoon (tbsp) is approximately 14 grams

Healthy oil is one that has less saturated fat, more monounsaturated fat and the level of polyunsaturated fats is balanced between saturated and mono. In addition, we need to consider the sub-constituents, the essential fatty acids – Omega 6, Omega 3 and Omega 9. The oil, which has these in some proportion, is the best.

### Gobar Gyan:

While using and buying oil, let your eyes be wide open. The market is flooded with cooking oils of different brands, composition and characteristics. The big market giants claim that their oil is the best and the most healthy. We are bombarded with advertising messages telling us about healthy oil that is good for the heart or good for a child's growth. Convinced by their claims? Think again!

Here are the essential components of good oil:

1. High Density Lipoprotein (HDL) – Enables lipids like cholesterol and triglycerides to be transported within the water-based bloodstream
2. Low Trans fat – Helps in reducing the extra cholesterol in the body
3. Monounsaturated Fatty acid (MUFA) – Gives good cholesterol
4. Polyunsaturated fatty acid (PUFA) – Reduces the possibility of heart strokes and hypertension

## Activity 2

Hey! Let us do something even more interesting. Watch five cooking oil advertisements and make a note of the highlighted features—the catchy lines used to sell/promote their oil. After making the list, visit a nearby departmental store (which has a plethora of brands) and compare the claims made in the advertisements. Strike out the contrasting differences. We all know that brands show a rosy picture in advertisements and by doing this activity you will get to know the reality.

Product	Brand	USP used in advertisement	Actual attributes
1.			
2.			
3.			
4.			
5.			

### Gobar Gyan:

We know that fats and oils are made up of chains of carbon atoms. The bonds between the carbon atoms classify the oil into saturated and unsaturated fats. Simply speaking, saturated fats have a single bond between carbon atoms (they have more hydrogen atom) while the unsaturated fats have double bonds between the carbon atoms. Unsaturated fat is further classified into MUFA and PUFA. MUFA includes omega 9. PUFA includes omega-6 and omega-3.

In relation to our health, it is broadly accepted that PUFA protects against cardiovascular disease by providing more membrane fluidity than MUFA. There is also an increased attention on the omega factors in oil. But researchers cannot agree on what works best in which circumstance. There are no straight answers. Nutritionists are of the view that the best oil is any oil used in moderation and switched frequently to get the maximum nutrition value.



## Activity 3

It will be interesting to explore the most famous cooking oil brands used in your locality by interviewing the store manager. Below are few questions to initiate the interview. You may wish to add more questions to derive to conclusion.

1. What do people prefer more: Oil or Ghee? \_\_\_\_\_
2. According to you, which Oil brand has the maximum buyers? \_\_\_\_\_
3. How much oil do you sell in a month? \_\_\_\_\_
4. Do you feel the price of oil makes a difference when customer explores the brands? \_\_\_\_\_
5. Do you feel the consumers are choosy and they prefer brands which promotes health benefits? \_\_\_\_\_
6. Do you notice consumers reading the details given on the packet before buying oil? \_\_\_\_\_
7. Does the customer demand same brands every month? \_\_\_\_\_

Now that you have gathered important and valuable data on oil, what do you think about using oil as the major cooking medium? What can be the best option for cooking? After completing all the activities, discuss the results with your friends. Also organise a group discussion in your class on the topic. You may wish to audit your family's oil consumption regularly for a year. Do not forget to share your results with us!



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