**Angeles  City Science High School**

**Conchem 9**

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#### Activity 4: Food Change

**Objective:** State the chemical changes happen on vitamins and mineral, protein, lipids and carbohydrate on storage and processing.

**Direction:** Read the background information carefully and complete the table below.

|  |  |  |
| --- | --- | --- |
|  | **Chemical Changes during**  **STORAGE** | **Chemical Changes during**  **PROCESSING** |
| **Vitamins and Mineral** | Significant level of decrease in vitamins such as vitamin B12, A, C and E. | Destruction of vitamins |
| **Proteins** | Maillard reaction | Proteins are denatured |
| **Lipids** | Oxidation | Decomposition of unsaturated fatty acids. |
| **Carbohydrates** | No significant loss in nutritional value of carbohydrates in frozen, canned or dried foods, carbohydrates react with proteins. | Blanching and boiling, there is considerable loss of low molecular weight carbohydrates. |

Guide Questions

1. How to handle food?

Cook with clean hands, utensils and cooking area. Meat, eggs and fish contain a lot of bacteria. Cook these foods thoroughly to kill the bacteria. Avoid these foods from contaminating other food. Throw away spoiled food. Wash fruits and raw vegetables before eating.

1. How to store food?

Keep perishable foods cool and use/consume within a few days or less. Remove fruits/vegetables that show signs of spoilage as they will spoil other fruits/vegetables that they are mixed with. Keep dry foods in closed containers.

#### Activity 5: All About Food Intake

**Objective:** Describe the different ways on how to prevent spoilage

**Direction:** Read the following item carefully. Write your answer on the lines provide.

A 1. Which of these foods is not kept in refrigerator?

* 1. Sugar b) fruits c) Vegetables d) chicken

C 2. Which of these foods is usually pasteurised?

a) Biscuits b) Potato chips c) Milk d) Salt

D 3. What is the common name of acetic acid?

a) Sugar b) Oil c) Salt d) Vinegar

C 4. Which of these foods is made into pickles?

a) Mango b) Banana c) Chinese cabbage d) Rice

B 5. What is the cotton like growth on the stale bread?

a) Bacteria b) Mould c)Algae d)Virus

B 6. Which gas is present in a packet of chips?

a) oxygen b) Nitrogen c) Hydrogen d) argon

D 7. Which of the following is incorrect about food preservation?

1. It helps to maintain nutritive values of food
2. It increases the self-life of food
3. It increases the wastage of food.
4. None of these

C 8. Which can prevent spoilage of food by micro-organism?

1. Removing moisture from the food
2. Keeping food items in low temperature
3. Adopting both method (a) & (b)

C 9. Which of these foods items are prepared by adding salt and sugar

a) milk & meat b) chips & Fish c) Jams & pickles.

D 10. Which of these is natural insect repellent?

a) Salt b) Sugar c) Oil d) Turmeric

A 11. What do carbohydrates break down to after digestion?

a) glucose b) lactose c) sucrose d) fructose

A 12. Which of the following is a vitamin?

a) folate b) calcium c) sodium

C 13. Which vitamin is mostly found in citrus fruits:

a) A b) B complex c) C d) D

D 14. Which of the following milks is not recommended for children under two?

1. breast milk b) reduced fat milk c) whole milk d) soy milk

A 15. What should eat plenty of?

* 1. vegetables and lean meat c) cereals and vegetables
  2. milk and cereals d) low fat foods and milk

#### Activity 6: Case Study – Kayla’s Story

**Objective:** Critique the health and food intake of Kayla.

**Direction**: Read the **Case Study – Kayla’s Story** carefully. Write your answer on the lines provide.

Guide Questions

1. What condition do you think Kayla suffered from?

Anorexia or bulimia

1. What motivated Kayla to lose weight?

Standards portrayed on media

1. What foods was Kayla surviving on?

Gums, Cups of tea and a glass of orange juice.

1. Why do you think counselling is part of the treatment?

Counselling helps you to deal with and understand many different emotions you are experiencing. It also helps you to change unhealthy responses and live your life positively.

1. Identify the similarities and differences of Kayla’s condition to bulimia

She lost a third of her body weight and surviving little to no food.

When she was 16 years old, Kayla almost died. Like many young people Kayla thought she had to be fit and lose weight so she could be like the pop stars, celebrities and other women portrayed in magazines. She believed people would like her more if she were skinnier. So each day her primary focus was on getting thinner.

She undertook several gym classes a day and would walk whenever she had free time. She started her diet by cutting back from three meals to two and then one and eventually none. Soon she was hiding food in her pockets and surviving on chewing gum, cups of tea and maybe a glass of orange juice. In six months she lost a third of her body weight.

During the first two months of her diet, Kayla’s friends and family told her how well she looked but later they started telling her that she looked too thin. However, every time Kayla looked in the mirror she only saw a plump figure.

When her weight reached 40 kilograms Kayla’s family knew they had a problem with their daughter. They tried to get her to eat but Kayla would lose her temper, kick throw her arms around and eventually lie on the floor and curl up in the fetal position. At 30 kilograms Kayla’s body resembled skin and bones; but she still felt fat. She had little energy and her condition was life-threatening. Her parents were advised to take her to a specialist rehabilitation Centre with counselling and treatment. Here they were surprised to meet some boys who also suffered from the same condition. Kayla stayed at the center for two months. She has slowly eaten her way back to health.