

STAND-ALONE  
Organic Agriculture Integration in Basic Education Curriculum (BEC)  
Second Quarter

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Age Level: 13-14 Topic:

I. Topic: Organic Agriculture: Methods of conserving soil fertility  
Science grade 7: Earth and Space: Protection and conservation of natural resources (page 48)

II. Prerequisite: Student should have prior knowledge about Methods of conserving soil fertility. Duration: 1-2 session

III. Learning objective:

1. Identify the methods of conserving soil fertility
2. Familiarize the methods of conserving soil fertility
3. know the natural properties of the soil.

IV. Main concept and Skills

1. Application of farm manures or organic fertilizer such as crop residues and other farm wastes which supply nutrients and improve soil physical conditions.
2. Organic fertilizer are added to the soil in large amounts to meet nutrient demand of the crops
3. The use of organic fertilizer is a vital component of integrated nutrient cycling system.
4. Green manuring practice is growing of special crop like legumes either alone or intermixed with other for the purpose of plowing them soil into the soil during flowering stage.
5. Cover cropping is growing of Kudso crop to protect the land from erosion, heat of the sun  
And beat of heavy rain.
6. The cover crop planted specially in cultures of permanent crop such as coconut ,coffee, orchard and the like mainly for protection as well as for enrichment of the soil
7. Mulching is the practice of placing dried materials around the base of the plant .the materials are rice straw, paper, saw dust coconut leaves ,coconut husk and the like to protect the roots of the plants from excessive heat and cold or from drought .
8. This practice also controls the growth of weed seed and control soil moisture. When the organic mulch decompose, they will turn into organic fertilizer.

**Materials:** compost files, computer vermin compost files , pictures, audio visual.

## V. presentation of the lesson.

### A.preliminary activities:

1. Prayer( assign leader)
2. Review the previous lesson /topic methods of determining soil fertility.
3. Motivation in your own “idea” how to conserve soil fertility? What activity do you know to conserve the beauty of environment? This activity helps to preserve nature? Yes or No? why? methods

### B. lesson proper:

The teacher shall perform the following task.

1. Discuss the methods of conserving soil fertility
  - Application of farm manures on organic fertilizer
  - Green manuring
  - Cover cropping
  - Mulching

### C. Student Activity (Time Frame 15-25 min)

1. Group the students into three and distribute activity sheets
2. Let them go to the field and collect soil sample with the following instructions:

Group 1- Collect samples from the playground

Group 11- Collect samples from the garden

Group 111- Collect from compost pit

3. Let the group write on a manila paper and report to the class their observation regarding the soil property, color, texture and visible organisms.

### D. ANALYSIS:

Based on the results of your observations:

1. Why is the color of the soil samples differed from each other?
2. Why is the soil texture from garden differed from that of the playground?
3. Why the soil in the compost pit has different color and texture from the garden soil?

### E. ABSTRACTION:

Application of manures, mulching, green manuring, growing of cover crops has contributed in the conservation of soil fertility. All of these can be

found within our surroundings. This is everyone's concern, if we want to maintain good harvest and conserve soil fertility.

#### F. APPLICATION:

At home, you can practice what you have learned how to conserve soil fertility by having a small garden and submit what are your observations on the plants with and without applying manures, mulching, crop cover and green manure.

#### E- EVALUATION:

1. What are you going to apply in order to conserve the fertility of the soil?
2. When is the right time to put into practice the ways on the conservation of soil fertility?

#### V- ASSIGNMENT:

Visit a farm in your community, meet and interview a farmer about his practices on how they conserve soil fertility.

Rubric of the students activity (task sheet)

| Performance rubric                        | 5 | 4 | 3 | 2 | 1 |
|-------------------------------------------|---|---|---|---|---|
| 1. All members cooperate                  |   |   |   |   |   |
| 2.gathered enough data needed             |   |   |   |   |   |
| 3.Finish before the time                  |   |   |   |   |   |
| 4.Group presented well the data collected |   |   |   |   |   |
|                                           |   |   |   |   |   |

Using the rating scale where:

- 5.all conditions were met
- 4. 3 conditions were met
- 3. 2 conditions were met
- 2.1condition met
- 1 present but done nothing.