

PENANG SANGAM HIGH SCHOOL
P.O.BOX 44, RAKIRAKI
LESSON NOTES

Subject: Biology
Week 18

Year/Level: 11

Strand	1 Structure and Life Processes
Sub Strand	1.5 Structure And Functions In Plants
Content Learning Outcome	Discuss the two types of asexual reproduction with examples.

1. Asexual Reproduction (Vegetative Reproduction)

Requires only one parent, who creates offsprings that are genetically identical to itself.

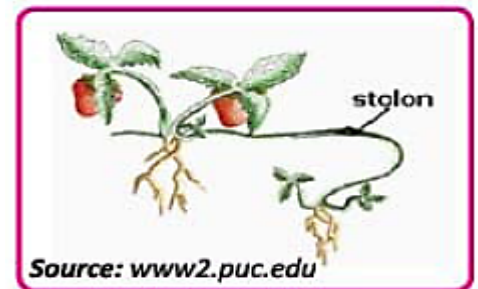
Two Types:

- A. Natural Methods of Vegetative Reproduction
- B. Artificial Methods of Vegetative Reproduction

A. Natural Methods of Asexual Reproduction:

1. Stolon's:

- Formed by stems growing horizontally above ground.
- New shoots and roots grow from nodes – may grow upright and develop several branches. E.g. strawberry.
- The connection dries off as soon as the new roots and shoots form



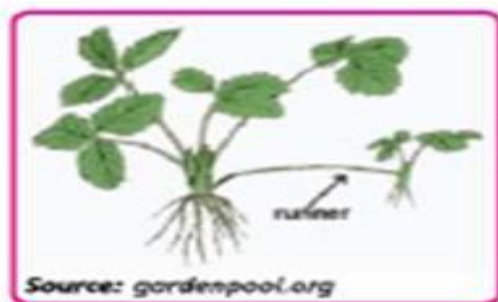
2. Rhizomes:

- Swollen stolon's growing underground.
- New plants emerge from old plant and may remain attached to the old plant for several years. E.g. ginger



3. Runners:

- Parent plant sends shoots above the ground.
- The shoot grows into a new plant and the parent plant dies away. E.g. paragrass.



4. Corms:

- Underground stems swollen with food – starch.
- Terminal buds of the corm develop into new plants. E.g. Dalo

5. Bulbs:



- Large buds underground with thick fleshy leaves- stores water and sugars.
- The bulbs grow into new plants. E.g. Onion.

6. Stem Tubers:



- Are stems growing underground which are filled with starch.
- Lateral buds grow into new plants. E.g. Potato.

7. Suckers:



- Form when auxiliary buds below the soil surface grow into new stems.
- The new stems become suckers. E.g. Bananas.

Note: Asexual methods of reproduction produces offsprings with same genetic material as their parents. No genetic diversity achieved.

B. Artificial Methods

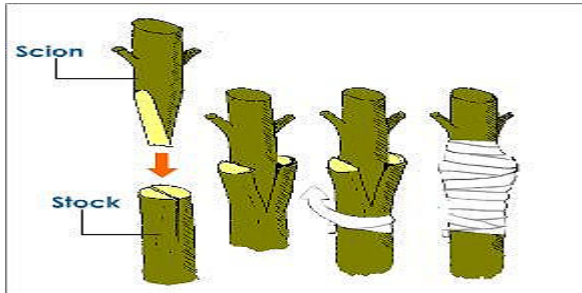
-Practised by man

(i) Grafting

-short branches are cut off from one tree and inserted into a closely related tree (cambium should match).

-Cut is bound up tightly to avoid disease causing organisms from entering and to stop tissue from dying.

-The bud or the shoot being grafted is called **scion** and the rooted portion is called the **stock**.

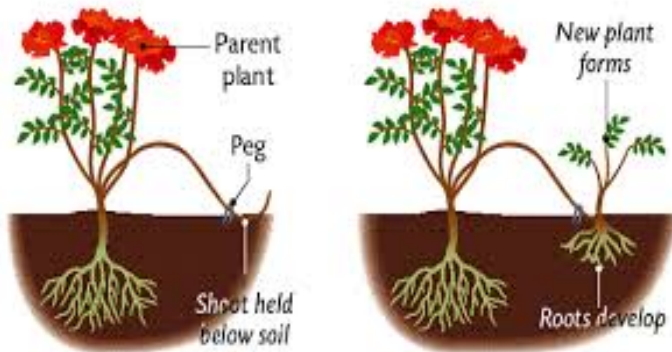


(ii) Cutting or Corms

- Part of plant is cut and replanted.
- Example: Cassava and sugarcane

(iii) Layering

- Stem of a plant is pinned down to the ground
- Grows own roots.



(iv) Budding

- Lateral bud is cut with a piece of surrounding bark in a T shape.
- A T-shape cut is made in the bark of another tree and the bud is inserted. The cambium of the bark and the bud should match.

Activity

1. Differentiate between natural and artificial reproduction.

2. Identify the method of reproduction for the following:

- a) Banana: _____
- b) Ginger: _____
- c) Sugarcane: _____
- d) Para grass: _____
- e) Potatoes: _____

f) Onions: _____