

Activity Number- 9

Factors affecting living organisms

Class :VI

Subject: Science

Duration – 30 minutes

Nature of activity : Individual

Learning Outcome : Students will be able to **correlate** the several factors affecting the survival of living plants or animals in their habitat. Living things like plants , animals , human beings and micro-organisms in a habitat, are the biotic components of the environment. Non-living things like soil , water , air , sunlight, temperature and wind constitute the abiotic components of the environment.

What I have to do ? To see the effects of abiotic factors (like air, light, heat and water) on germination of seeds.

What I require ? moong seeds , containers , water , oil

What do I need to know ? The biotic and abiotic components form the natural environment of an organism.

Teacher's Activity: Teacher will ask students to germinate the seeds in four conditions given below and records their observations..

How will I proceed ?

Student's Activity : Students will perform the activity and note down the observations.

What have I observed :

S.No	Method	Conditions seeds get	Conditions- seeds do not get	Observation
1	Put some dry gram seeds in bowl 1 and place it in the sunlight or at a warm place	Air + sunlight (warmth and light)	Water	
2	Put some soaked seeds in bowl 2 and keep it inside a refrigerator.	Air + water	Warmth	
3	Put some soaked seeds in bowl 3 and fill it with water. Then cover it with a layer of oil. Place it in the sunlight or in a warm place.	Water + sunlight	Air	
4	Put some soaked seeds on moist soil in bowl 4 and keep it in the sunlight or at a warm place.	Water + Air + sunlight	–	

What have I learnt ? _____, _____ and _____ are necessary for the germination of seeds.

What I would be interested / curious about ?: Why can't seed germinate in rest of the three conditions?

Extended Learning worksheet

1. Which is not a requirement for germination of a seed?

- (a) Favourable Temperature
- (b) light
- (c) fertilizer
- (d) sufficient moisture

2. What do you know about what plants need to grow?

- (a) Plants grow with fresh air.
- (b) Plants grow if they have water.
- (c) Plants need air, sunshine and water to grow.
- (d) Plants need water and fertilizer to grow.

3. Seeds need _____, warm temperatures, and nutrients in order to start growing.

- (a) grass
- (b) water
- (c) leaves
- (d) stems

4. The main function of the leaves of a plant is _____

- (a) carry out photosynthesis
- (b) support the plant
- (c) get water to all plant parts
- (d) anchor the plant

5. In which structure do seeds develop?

- (a) Anther
- (b) Ovary
- (c) Pollen Grain
- (d) Spore

6. All seeds have

- (a) Seed Coat
- (b) supply of food
- (c) Embryo
- (d) All of the above

7. A seed leaf that stores food

- (a) embryo
- (b) cotyledon
- (c) seed coat
- (d) radicle

8. The first product of germination (that shows outside of the seed) is the _____

- (a) Radicle
- (b) Cotyledon
- (c) Plumule
- (d) Seed coat