

Subject- Science

Activity 15- To compare fresh water and salt water ecosystem

Chapter 15: Our environment

Class-X

Duration-2 weeks

Nature of the Activity- Group work

Learning Outcome- The students will be able to observe ecosystems and relate these with salinity problems to find the solutions.

What we have to do?

Develop fresh water and salt water ecosystems

What do we require?

- 2 same sized plants belonging to same species
- 2 containers of tap water
- 1 tbsp of salt
- Stirrer
- Pebbles

What do we need to know?

Some of the ways by which we can tackle salinity problems in our gardens are-

1. Planting of salt tolerant plants. Not only are they equipped to deal with the salt, but often actually flourish in it, and being ideally suited to the conditions, are often low maintenance than those that are not. They are also often drought tolerant.

2. Many plants are more sensitive to excess salinity in their formative stages- during germination and initial growth. To help reduce salinity at this stage, they may be kept well-watered. The newly planted seeds or plants can be given a surrounding bed of low salinity soil, to ease their way while they become stronger.

3. Raised garden beds, or pots, using brought in soil, is also an effective measure.

4. Mixing of Gypsum with soil, can also be done.

How will we proceed?

- **Teacher's activity-** Teacher will give the instructions along with the protocol (Student's activity)
Teacher will arrange for the materials .
- **Student's activity**
 1. The activity can be accomplished in two groups named 'salt water' and 'fresh water'.

2. Fill a container with tap water and other with salt and water, then stir. Label each one.
3. Place plants in the respective containers. Examine each plant after a few days.
4. Each group to work on their respective activity
5. Each group to note their observations.

What do we observe?

	Growth of plant in Fresh water	Growth of plant in Salt water
6 days		
10 days		
14 days		

What have you learnt?

An ecosystem is formed by the interaction of a community of organisms with its environment. Specific organisms grow/live in specific environment for which they are well adapted.

What would I like to know ?

Salt is a very common substance in the soil as well in the sea. However, the amount of salt in most soils is quite low. Plants need a small amount of salinity to survive, since salt is one of the nutrients necessary for plants to grow, so the presence of some salt is necessary. However, salt water has a high concentration of the mineral, which is why it can be toxic to most plants.

Extended learning-

1. What happens to a mesophyte when you put it in (a) salt water and (b) fresh water?
2. Why does the plant in salt water get withered?
3. Why does the plant in fresh water stay the same?
4. How does your experiment relate to real world problems?
5. What could be done to try and lessen the problem of salt in soil?