Environmental Impact Study

Use the instructions below to let students become junior environmental scientists as they simulate how changes in the environment (like pollution or climate change) impact the saltmarsh.

You Will Need

- Large clear plastic container
- Gravel and sand
- Organic potting soil
- Saltmarsh plant species
- Water
- Additional materials
- Rulers and measuring cups

Instructions

1. **Prepare the Container**: Place a layer of gravel and sand at the bottom of the container about 5cms deep.
2. **Add Soil**: Over the gravel, add 10 cms of organic potting soil.
3. **Plant**: Introduce the saltmarsh plants into the soil. Space them as they would naturally occur.
4. **Water**: Slowly add fresh water mixed with salt to simulate the salinity of a saltmarsh. Ensure the soil is saturated but not submerged entirely.
5. **Add Features**: Place rocks and logs to create microhabitats and landscape features.

Experiments

1. **Water Filtration:** Students can experiment by pouring water mixed with harmless, organic dyes or particles through the wetland to observe natural filtration and sedimentation. Record how clear the water is before and after passing through the mini saltmarsh.
2. **Plant Growth:** Measure and record the growth of the plants over several weeks. Observe how different conditions (like varying water levels or salinity) affect growth.
3. **Salinity's Effect on Evaporation:** Experiment with different salinity levels in separate containers to see how they affect water evaporation rates. Use rulers to measure the decrease in water level over time.

Expected Results

1. ***Filtration**: The mini saltmarsh should demonstrate natural filtration, with clearer water observed after it passes through the ecosystem.*
2. ***Plant Growth**: Plants in optimal conditions (correct salinity and water levels) should thrive better than those in less ideal conditions.*
3. ***Evaporation**: Higher salinity should result in slower evaporation rates, demonstrating how saltmarshes can help retain water in the environment.*

Students conduct controlled experiments to understand how changes affect the natural environment.

Environmental Impact Study

Observation Log:

Date	Height of Plants	Observable condition	Water Clarity	Wildlife Activity (Insects)	Any other observations

Students conduct controlled experiments to understand how changes affect the natural environment.