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Product Name :

Visualising Osmosis & Diffusion Investigation

Product Code :

SLE/ECB/19



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Description :

Visualising Osmosis & Diffusion Investigation (Product Code: SLE/ECB/19) is a class investigation used to demonstrate selective permeability with coloured solutions in school biology lessons on the cell membrane. Sized for a class of 40 students, it pairs a model cell with amixture of special dye solutions, so learners watch the membrane let one dye pass while theother stays inside. It is supplied by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala,as an osmosis experiment kit within its school biology lab equipment in India.

Key Details

Parameter	Detail
Type	Osmosis and diffusion class investigation
Class size	40 students
Working materials	Model cell and a mixture of special dye solutions
What students observe	One dye passes through the membrane while the other remains within the cell, producing a colour change
Concepts covered	Selective permeability; nutrient uptake and waste discharge; osmosisand diffusion; passive transport of water through a semipermeable membrane; equilibrium
Shelf life ofsolutions	Depends on the chemical, its grade and storage conditions; ask us for the expiry date of the batch you are quoted
Product code	SLE/ECB/19
Supplied by	Jain Scientific Equipments Pvt Ltd (ScienceLab), Ambala, India

What Is the Osmosis & Diffusion Investigation Used For?

The investigation is built around a prediction: once the model cell is placed in the dye mixture, which colour will end up where? As the experiment runs, the membrane lets one dye through and holds the other back, and the colour change inside and outside the cell gives students clear evidence that membranes are selective rather than simply porous. Teachers then use the result to explain how smaller molecules move by diffusion down a concentration gradient, why larger molecules are retained, and how water moves by osmosis through the same semipermeable membrane until equilibrium is approached.

Because it needs no living material, the activity is predictable enough for timed practical lessons and suits younger classes under normal laboratory supervision. It fits well after a simple osmosis demonstration and before work on root hair cells, the small intestine or kidney function, and it gives every group in a biology lab setup the same clear result. Keep the dye solutions capped, label any mixtures prepared in advance and wear gloves if students handle the solutions directly.

Supplier

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