Diffusion, Osmosis, Active Transport

3 Main Ways Substances Enter & Exit Cells

Outer Covering of Cells = Cell membrane Holes = pores Diagram \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Selectively Permeable – A property of cell membranes that allows some substances to pass through, while others cannot.

Factor that determines permeability (what passes through) – size of pore or energy being available

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|  | Diffusion | Osmosis | Active Transport |
| Definition | The process by which **small** molecules  move from a higher concentration to  lower concentration area | The process by which ***water molecules***  ***only*** move from an area of higher  concentration to lower concentration area | The process by which **larger** molecules  move from an area of lower  concentration to higher concentration |
| Size & Kind of  Molecules Moving | small molecules - oxygen, carbon dioxide | Small molecule – WATER ONLY | LARGER MOLECULES – sodium, calcium, potassium |
| Energy Required | No energy required – just happens because concentration gradient present | No energy required – just happens because concentration gradient present | Yes - Energy required – gets it from transport protein or engulfing |
| Passive or Active  Transport | Passive Transport – just happens | Passive Transport – just happens | Actively transported by transport protein OR engulfing creating a vacuole moving in or out of cell |
| Molecules Move  From – To  Concentration | Move from higher concentrations to lower | Move from higher concentrations to lower | Move from lower concentrations to higher |
| Diagram | Before After | Before After |  |