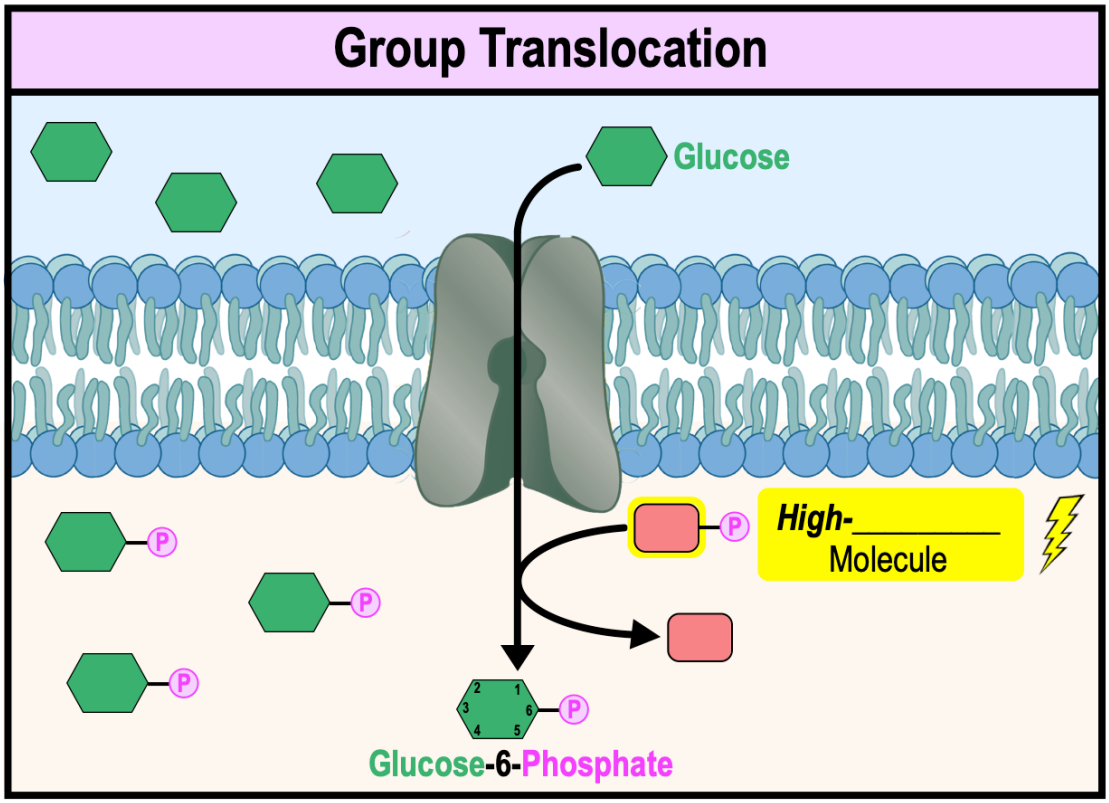
CONCEPT: GROUP TRANSLOCATION

●**Group Translocation:** special type of transport where a molecule is chemically _____ as it enters the cell.

- □ Typically results in the addition of a _____ group from a *high-energy* molecule.
- □ Modification allows entering molecule to always be transported _____ its concentration gradient.
- □ Exclusive to _____.

EXAMPLE: *E. coli* Phosphotransferase system (PTS) transfers glucose into the cell & is converts it to glucose-6-phosphate.



●Sometimes scientists categorize this as a special/alternative type of *active* transport.

PRACTICE: During group translocation, which statement is true?

a) No energy is required.
b) Substrate is being modified.
c) Channel is an integral membrane protein.
d) Both b and c.

PRACTICE: Which of the following statements is TRUE about the E. coli phosphotransferase system (PTS)?

a) The PTS does not require an input of energy from the cell.
b) Substrate being transported is phosphorylated during transport from a high-energy molecule.
c) The PTS requires energy in the form of an ion gradient.
d) The PTS requires energy in the form of ATP.