



## The Six Learning Levels: Examples

Bloom's revised taxonomy

- Remembering
- Understanding
- Applying
- Analyzing
- Evaluating
- Creating

Sample Question (cell membrane):

Which of the following serves a transport function across the cell membrane?

- a. phospholipids
- b. cholesterol
- c. glycoproteins
- d. integral proteins
- e. actin filaments



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Sample Question (cell membrane):

Which is NOT true of osmosis?

- a. It is a special form of diffusion
- b. It is a form of active transport
- c. Water moves from low solute to high solute concentration
- d. Water moves from hypotonic to hypertonic areas
- e. Water crosses a membrane



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Sample Question (cell membrane):

Three single-celled organisms live in a pond. They only differ in size. During a drought, water levels drop and expose them to air. Which will be first to lose 40% of its water content?

- a. The smallest
- b. The largest
- c. The medium-sized
- d. They lose it at the same time
- e. They don't lose water because cell membranes are water-impermeable



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Sample Question (cell membrane):

Put the following events of synaptic transmission in the correct sequence:

1. Neurotransmitter is released
2. Voltage-gated calcium channels open
3. Neurotransmitter binds to receptors
4. Vesicles fuse with cell membrane
5. Voltage-gated sodium channels open
6. Membrane is hyperpolarized



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Sample Question (cell membrane):

You suffer from symptoms caused by an over-stimulation of your postsynaptic neurons in a specific brain area. These neurons use dopamine as neurotransmitter. Which of the following would be your best treatment option with the least side effects?

- a. A pill that blocks presynaptic calcium channels
- b. A pill that reduces dopamine-esterase activity
- c. A pill that blocks postsynaptic sodium channels
- d. A pill that speeds up the reuptake of dopamine
- e. A pill that reduces the number of receptors in all postsynaptic neurons



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Sample Question (cell membrane):

Scientists have found that compared to animal cells, there are very few specific ion transporters in plant cell membranes. Use everything you learned about plants and animals to discuss the potential problems this poses for plants (give examples), and how plants cope in each case.