

Answer the following questions **completely**. Use drawings to aid your explanation.

- 1) Your two friends want to play a joke by dumping red food coloring at one end of the pool and yellow food coloring at the other end. What is going to happen if they were to dump the food coloring in the pool?
- 2) Your little brother just poured some salt into your jar of paramecium. Salt cannot pass through their cell membrane. What is going to happen to your pet paramecium and why? What could you do to stop this from occurring?
- 3) You are a hungry paramecium that has just eaten as much of the sugar molecules from a fruit as you can fit into your one celled body. As you move away from the fruit, your body starts to hurt. What is happening to you and why?
- 4) A new medicine is developed that destroys the carrier proteins imbedded in the cell membrane of bacteria. How does this medicine kill the bacteria?
- 5) You are a white blood cell patrolling the area around a cut. You notice a bacterium has entered the wound and is attempting to start an infection. What will you do to stop the bacterium?
- 6) **Explain in your own words** how an electrogenic pumps work.

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