

Name \_\_\_\_\_

Diffusion & Osmosis quiz

1. Hemolytic uremic syndrome (HUS) can be caused by birth control pills, pregnancy, *E. coli* bacteria, or pneumonia. The name of the disease, *hemolytic*, describes the lysis of red blood cells (RBCs). The name also includes the description of urea accumulating in the blood (*uremic*). Why do the RBCs lyse?

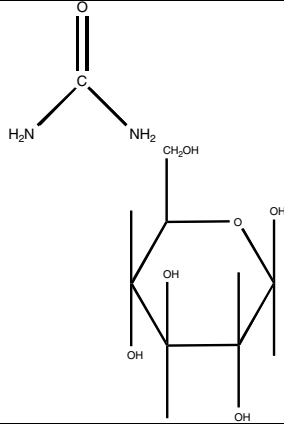
RBCs in isotonic:

Time to lysis

Urea diffuses into the cell making it hypertonic to the environment. Water then enters the cell causing lysis.

Urea

5 sec



Glucose

never

2. Measure one red blood cell.  $7 \mu\text{m}$

3. Compare the penetration rates of the two-carbon alcohols to each other? What accounts for the difference?

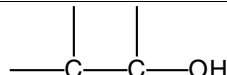
*Elodea* in:

Time to deplasmolysis

Cells immediately plasmolyze in a hypertonic environment. Then solutes diffuse into the cell causing water to follow, which leads to deplasmolysis.

Ethanol

3:06 min



Ethylene glycol

3:30 min

