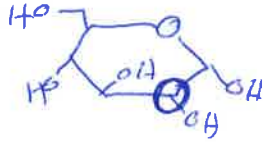


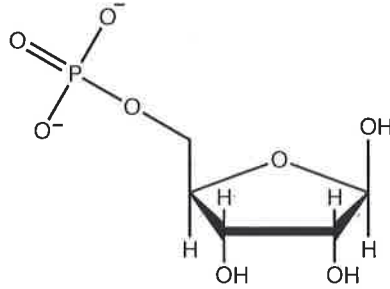
Name: Key

Quiz 13

1. Draw α -D-glucose.



Below is the structure of ribose-5-phosphate.



- How many total (all together) C-C and C-H bonds are present in glucose? 12
- How many total (all together) C-C and C-H bonds are present in ribose-5-phosphate? 10
- What is the numerical difference between your answers for #3 and #4? 2
- How many times will carbon from glucose be oxidized in the pathway from glucose to ribose-5-phosphate? Name the enzyme or enzymes that catalyze the reaction(s). 2
glucose-6-phosphate dehydrogenase / 6-phosphogluconate dehydrogenase
- How many times will carbon from glucose be reduced in the pathway from glucose to ribose-5-phosphate? Name the enzyme or enzymes that catalyze the reaction(s). 0
- Circle the carbon in your drawing of glucose that goes on to become C1 of ribose-5-phosphate.
- What is special about the redox reactions of the pentose phosphate pathway compared to glycolysis?

These reactions use NADP⁺ instead of NAD⁺ as in glycolysis