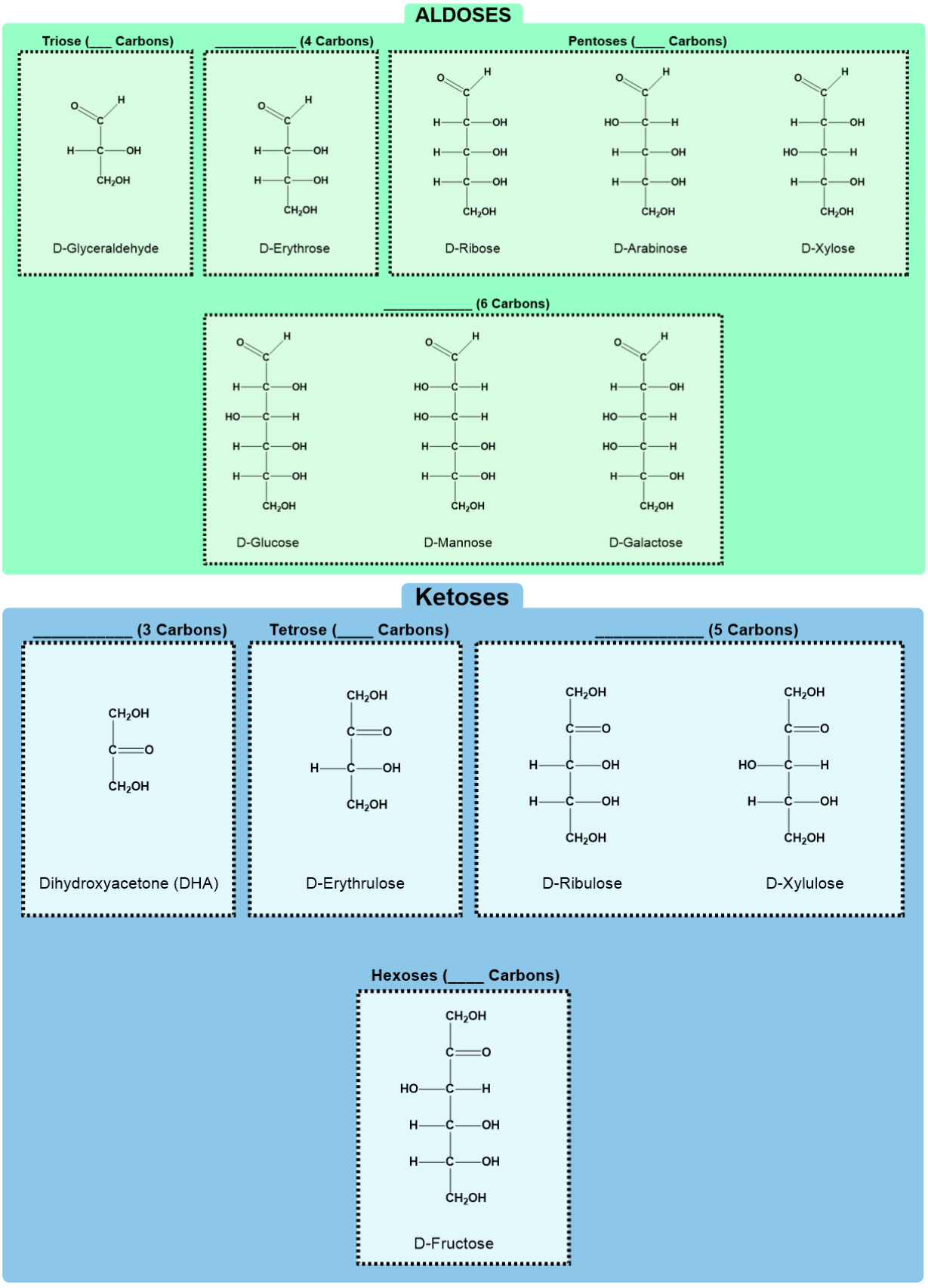
CONCEPT: COMMON MONOSACCHARIDES

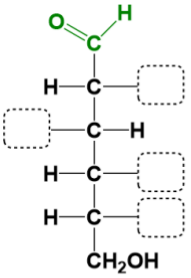
●Some of the most common aldose and ketose monosaccharides in nature are shown below:



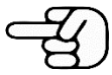
CONCEPT: COMMON MONOSACCHARIDES

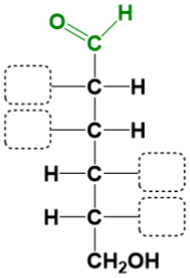
Monosaccharide Structures Worth Memorizing

●The monosaccharide structures worth memorizing will vary from course to course, but here are a few common ones!



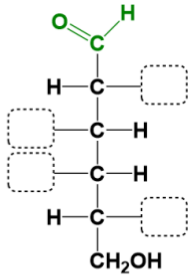
D-_____





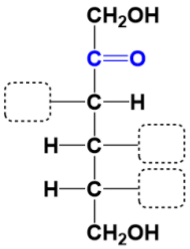
D-_____

___ Epimer of Glucose.



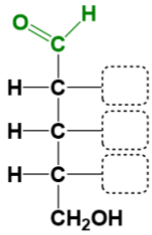
D-_____

___ Epimer of Glucose.



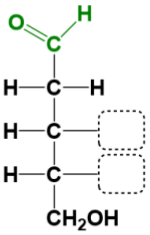
D-_____

Ketose form of Glucose.



D-_____

__ibose is all _____

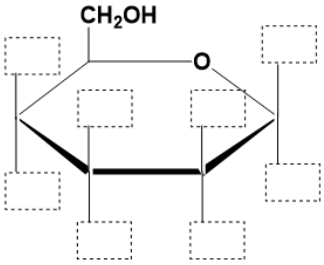


D-_____

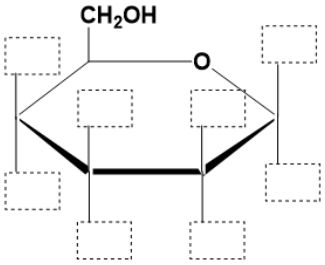
Cyclic Forms of Monosaccharides

●We can use the *linear* forms of sugars to derive their _____ forms:

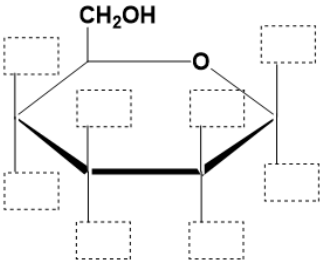
□ β-D-**Gluco**pyranose.



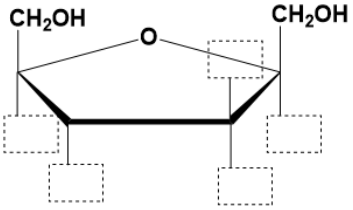
□ α-D-**Manno**pyranose.



□ α-D-**Galacto**pyranose.



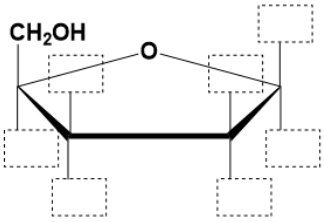
□ α-D-**Fructo**furanose.



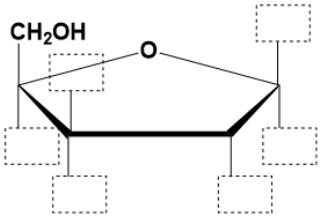
"Up-Lefting"

"Down-Right"

□ α-D-**Ribo**furanose.



□ α-D-**Deoxyribo**furanose.



PRACTICE: Which of the following pairs of sugars are epimers of each other?

a) D-fructose and L-fructose.

b) D-mannose and D-glucose.

c) D-ribose and D-deoxyribose.

d) D-galactose and D-fructose.

CONCEPT: COMMON MONOSACCHARIDES

PRACTICE: The sugar α-D-Mannose is a sweet-tasting sugar. β-D-Mannose, on the other hand, tastes bitter. A pure solution of α-D-mannose loses its sweet taste with time as it is converted into the β anomer. Draw the β anomer:

PRACTICE: Draw the α-furanose and β-pyranose forms of D-ribose.

PRACTICE: Indicate if the following pairs of sugars are **enantiomers**, **anomers**, **epimers**, or an **aldose-ketose pair**:

a) α-D-galactopyranose and β-D-galactopyranose. _____

b) D-glucose and D-mannose. _____

c) D-glucose and D-fructose. _____

d) α-D-glucopyranose and β-D-glucopyranose. _____

e) D-galactose and D-glucose. _____

f) α-D-mannopyranose and α-L-mannopyranose. _____