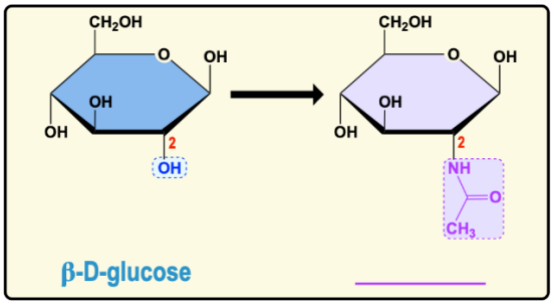
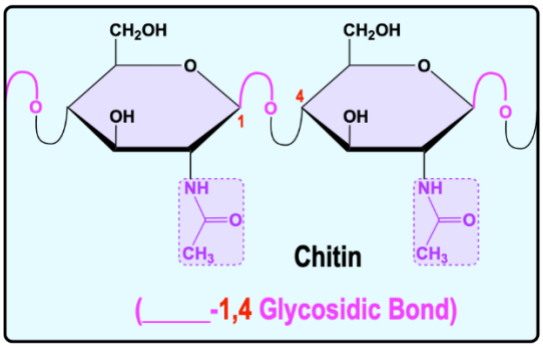
CONCEPT: CHITIN

Polysaccharide	Type	Repeating Sugar(s)	Glycosidic Linkage	Function	Organism	Branched?
Chitin	_____-	_____	____-1,4	_____	_____	_____

□ ***N-a**cetyl**g**lucosamine* = _____





PRACTICE: Chitin is:

a) A branched homopolysaccharide of N-acetylglucosamine.
b) A heteropolysaccharide of N-acetylglucosamine and N-acetylmuramic acid.
c) An unbranched complex heteropolymer of many sugars.
d) An unbranched homopolysaccharide of N-acetylglucosamine.

PRACTICE: Indicate whether or not each of the following characterizations applies to the following:

(1) Chitin only, (2) Cellulose only, (3) Both Cellulose and Chitin, (4) Neither.

a) Structural polysaccharide: _____.
b) Monomers are glucose amino sugar derivatives: _____.
c) Glycosidic linkages are all (β-1,4): _____.
d) Homopolysaccharide: _____.

PRACTICE: Which of the following statements best describes the main structural difference between cellulose and chitin?

a) Chitin contains α-1,4-glycosidic linkages while cellulose contains β-1,4-glycosidic linkages.
b) The C-2 carbon in the cellulose monomer contains an N-acetylamino group instead of an -OH group.
c) Cellulose is a linear, unbranched homopolysaccharide while chitin is a branched homopolysaccharide.
d) The C-2 carbon in the chitin monomer contains an N-acetylamino group instead of an -OH group.