Name _____ Date _____ Period _____

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Carbohydrates

Biology

Answer in complete sentences. Show your setup for calculations.

1. Classify each carbohydrate by size.

Molecule	Monosaccharide, disaccharide, or polysaccharide?
Glucose	
Sucrose	
Cellulose	

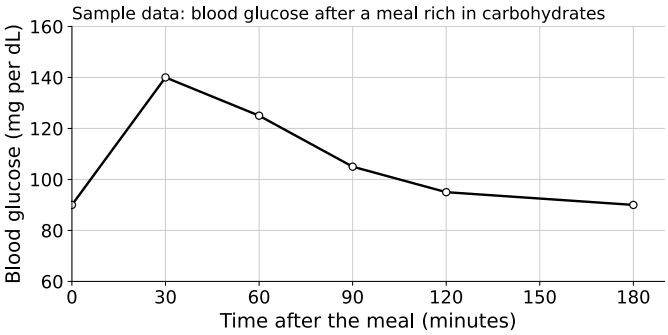
2. Maltose is a disaccharide made of two glucose molecules, $C_6H_{12}O_6$, joined by dehydration synthesis.

(a) Write the formula of maltose. Show your setup.

(b) Glycogen is a chain of 1,200 glucose units. How many molecules of water were released when it formed?

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3. The graph shows blood glucose after a meal rich in carbohydrates (sample data).



(a) By how many mg per dL did blood glucose rise from 0 to 30 minutes?

(b) Explain why blood glucose fell between 30 and 180 minutes.

4. Starch and cellulose are both polymers of glucose.

(a) Explain why humans can get energy from starch but not from cellulose.

(b) Which polysaccharide do your muscles use to store glucose?

(c) Which polysaccharide do plants use to store glucose?

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