Lesson Plan: Carbohydrates

Setting: 30 students with practical experience in a medical job training to become teachers in their field

Time: 90 minutes

Syllabus

structure, properties, classification, functions,
glycolysis, gluconeogenesis, glycogen metabolism

Objectives

- students answer 6 questions on carbohydrates in pairs within 20'
- students explain what carbohydrates are
- students define, differentiate and give examples for
  - monosaccharides, disaccharides, polysaccharides
  - functions of carbohydrates
  - glycosidic bond, structural properties of carbohydrates
- additional objectives for exam announced (data not shown)

Concept Map

- The structure of lactose annotated by: glucose, galactose, monosaccharide, disaccharide, glycosidic bond, OH-group.
- A table with the rows [molecule class, building blocks, bonds, #blocks, length] that was filled with data for carbohydrates, amino acids, nucleic acids and lipids during the day

Lesson Plan

1. Story: why I did not like breakfast in Eastern Asia (5')
2. Ask students for their experience with lactose intolerance (10')
3. explain task, work in pairs (20')
4. discuss answers (30')
5. deduce structural determinant for lactose intolerance (10')
6. collect relevant concepts on the board (10')

Prototype (Story weaved through the lesson)

Lactose intolerance

Material

- 8 cards with sample carbohydrates
- 6 questions like:
  - What groups of carbohydrates do you find?
  - What does lactose consist of?
  - What is the difference between glucose and galactose?