Designing Adaptable Classroom Assessments

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Outcomes

• Identify confounding variables of fixed assessments

• Identify examples of adaptable assessments

• Design assessments that are adaptable, accurate, and authentic
Assessment as

- Measurement Tool
- Learning Tool
- Collaboration Tool
Assessment that are Adaptable and Accurate
Learning Outcome: Define and Group Terms

Peptide Bond
Lactose
Cholesterol
Wax
Polysaccharide
Nucleotide
Cellulose
Nitrogenous base
Monosaccharide
Triglyceride

Glucose
Amino acid
Disaccharide
Fatty Acid
Deoxyribose
Chitin
Phospholipid
Ribose
Lipid
Protein
1. Which relationship is different?

A. Monosaccharide / Polysaccharide
B. Monosaccharide / Disaccharide
C. Phospholipid / Lipid
D. Amino Acid / Protein
The alternative

• Clearly identify the learning outcome

• Let students select the strategy for demonstrating knowledge

• Provide a clear and detailed rubric
Carbohydrate: (Sugars, disaccharide, monosaccharide’s, polysaccharides) Store energy and maintain cell structure. They are non-polar and are insoluble in water. They are hydrophobic.

Monosaccharide: Simple sugar
Polysaccharide: When numerous monosaccharide’s are joined together.
Disaccharide: double sugar, two monosaccharide’s connected,
Glycogen: starch in plants
Chitin: Polysaccharide N-acetylg glucosamine
Starch: Plant product formed together by bonding together thousand of glucose.
Cellulose: produced by plants, it’s a polysaccharide of glucose.
Glucose: the most abundant monosaccharide in nature. It is the sugar molecule the body uses to create energy, and it is the fuel used by brain cells.
**Carbohydrate:** (Sugars, disaccharide, monosaccharide’s, polysaccharides) Store energy and maintain cell structure. They are non-polar and are insoluble in water. They are hydrophobic.

- **Monosaccharide:** Simple sugar
- **Polysaccharide:** When numerous monosaccharide’s are joined together.
- **Disaccharide:** double sugar, two monosaccharide’s connected,
- **Glycogen:** starch in plants
- **Chitin:** Polysaccharide tough material plant backbones
- **Starch:** Plant product food
- **Cellulose:** produced by plants
- **Glucose:** the most abundant sugar the body uses to create energy.

<table>
<thead>
<tr>
<th>Sugars</th>
<th>Deoxyribose, fructose, glucose, lactose, ribose, sucrose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar</td>
<td>Monosaccharides, disaccharides, polysaccharides</td>
</tr>
<tr>
<td>Nucleobases</td>
<td>Adenine, cytosine, guanine, thymine</td>
</tr>
<tr>
<td>Nucleic Acid</td>
<td>Deoxyribonucleic acid, nucleotide, nitrogenous base, ribonucleic acid</td>
</tr>
<tr>
<td>Cell essentials</td>
<td>Cellulose, protein, cholesterol, chitin</td>
</tr>
<tr>
<td>Fats</td>
<td>fatty acids, glycerol, lipids, phospholipid, steroid, triglyceride, waxes</td>
</tr>
<tr>
<td>Storage</td>
<td>Carbohydrates, glycogen, starch</td>
</tr>
<tr>
<td>Reactions</td>
<td>Amino acids, Enzymes</td>
</tr>
<tr>
<td>Chemical Identification</td>
<td>Peptide bond, saturated, unsaturated</td>
</tr>
</tbody>
</table>
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- **Monosaccharide:** Simple sugar
- **Polysaccharide:** When numerous monosaccharide’s are joined together.
- **Disaccharide:** double sugar
- **Glycogen:** starch in plant products
- **Chitin:** Polysaccharide
- **Starch:** Plant products
- **Cellulose:** produced in plant products
- **Glucose:** the most abundant sugar the body uses to create energy

**Sugars**
- Deoxyribose, fructose, glucose, lactose, ribose, sucrose

**Sugar Identification**
- Monosaccharides, disaccharides, polysaccharides

**Nucleobases**
- Adenine, cytosine, guanine, thymine

**Nucleic Acid**
- Deoxyribonucleic acid, nucleotide, nitrogenous base, ribonucleic acid

**Chloroplast**
- Photosynthesis
- Protein synthesis
- Cellular respiration and ATP production
- Completes glucose decomposition to molecular oxygen and water
- Directs synthesis of ribosomes and proteins, houses DNA
- Distributes lipids and proteins after modifying, sorting, tagging, and packaging them
- Genetic codes or markers, making everyone unique
- Organelles stay in specific positions, lets cytoplasm and vesicles move around in the cell, and unicellular organisms move independently keeps the shape of the cell
Carbohydrate: (Sugars, disaccharide, monosaccharide's, polysaccharide's) Store energy and maintain cell structure. They are non-polar and are insoluble in water. They are hydrophobic.  

Monosaccharide: Simple sugar  
Polysaccharide: When numerous monosaccharide's bond together.  
Disaccharide: double sugar.  
Glycogen: starch in plants.  
Chitin: Polysaccharide N animals.  
Starch: Plant product formed by grains.  
Cellulose: produced by plants.  
Glucose: the most abundant sugar in the body. The body uses to create energy.  

Fatty Acid  
A carbonic acid unsaturated with a hydrocarbon chain and a functional group called a carbonyl group. This name comes from its ability to form hydrogen bonds with water.  

Glycoprotein  
A sugar glycoprotein is a glycoprotein that contains a sugar. It forms proteins in the human body. It is used as an emollient and laxative, and for shrinking and antiseptic.  

Guanine  
A compound that occurs in guano and GUODY.  

Glucose  
A simple sugar that is an important energy source in living organisms and is a component of many carbohydrates.  

Lipid  
A group of non-polar organic compounds extracted from hydrocarbons and distinguished by their solubility and not soluble in water.  

Nucleic bases  
Adenine, cytosine, guanine, thymine.
Choices and Constants

Constant
• Content
• Rigor

Choices
• Learning Resources
• Assignments
Benefits

- Assessing SLO directly - single variable
- Students learning - focused on content rather than form
- Universal Design for Learning
Considerations

• Scaffold learning by providing examples in early assignments

• Provide a detailed rubric
  • Students know exactly what to do
  • Makes grading easier
Learning Outcome: Explain a Process

Explain how your nervous system allows you to see a pen on the table and pick it up. Include: sensory neuron, interneuron, brain, motor neuron, skeletal muscle, electrical message, chemical message, synapse, axon, dendrite, sodium channels, potassium channels, the Na/K pump, and ATP.
Essays: Confounding Variables

Write an essay explaining how your nervous system allows you to see a pen on the table and pick it up. Include: sensory neuron, interneuron, brain, motor neuron, skeletal muscle, electrical message, chemical message, synapse, axon, dendrite, sodium channels, potassium channels, the Na/K pump, and ATP.
Considerations

• Accurately assess synthesis
• Writing is an important skill
  • Multiple content reviews
• Peer review
  • Provide training
Assessment Options

- Case studies
- Multi-media
- Portfolios
- Online collaborations
  - Annotations
  - Study Resources
More Assessment Types

Renewable Assignments

Disposable Assignments
Frameworks and Resources

- Assessment Worksheet
- TILT – Transparency in Learning and Teaching
- UDL – Universal Design for Learning
- Understanding by Design
- Culturally Responsive Assessment
Thank you!

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