Welcome and thank you for attending the 2018 Online Teaching Conference!

Please help us improve your conference experience by...

• Rating and reviewing our sessions and speakers within our OTC Mobile Event App after each session you attend.

  AND

• Taking our online surveys at the conclusion of the conference.

Survey links are available at:

onlineteachingconference.org/evaluations
Which one are you?
Universal Design & Equity in Learning

Provide multiple means of representation:
give learners various ways of acquiring information and knowledge (text, video, audio)

Provide multiple means of action and expression:
provide learners alternatives for demonstrating what they know (essay, diagram, table, outline)

Provide multiple means of engagement:
tap into learners' interests, challenge them appropriately, and motivate them to learn.
(authentic, intrinsic/extrinsic motivation)

There is no “average / typical” student

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And Universal Design for Learning by Wikipedia Creative Commons Attribution-ShareAlike 4.0 International License
And Teen checking rearview mirror by Statefarm Attribution 2.0 Generic (CC BY 2.0)
Accessibility

Universal Design

[Image 17x101 to 342x433]
[Image 351x101 to 708x433]

RIA Novosti archive, image #21116 / Oleg Lastochkin [CC BY-SA 3.0], via Wikimedia Commons

By Mario Roberto Duran Ortiz Mariordo (Own work) [GFDL or CC BY 3.0], via Wikimedia Commons
An aggregation-removal model for the formation and size determination of post-synaptic scaffold domains


Bob Marley photo by Monosnaps; https://www.flickr.com/photos/dubpics/5619867903 Attribution-NonCommercial-ShareAlike 2.0

Princeton Lecture By *christopher* from San Francisco, USA (princeton) [CC BY 2.0], via Wikimedia Commons

Cereal, lil’ darlin, cereal
Constant
- Content
- Rigor

Choices
- Learning Resources
- Assignments
Provide multiple means of representation:

Give learners various ways of acquiring information and knowledge (text, video, audio)

The enzyme used for this process is DNA polymerase. ("poly" means many "mer" means pieces and "ase" tells me this is an enzyme). So, the name tells me this is an enzyme ("ase") that binds many ("poly") pieces ("mer") of DNA to each other. There are a number of other enzymes involved in this process as well (as you can see below). Some enzymes open the DNA strand, others copy the strand, and others fill in any gaps.

1. Helicase unwinds DNA strands
2. Topoisomerase prevents supercoiling
3. SSBP prevent reattachment
4. RNA primase adds RNA primer
5. ...

- [http://learn.genetics.utah.edu/content/basics/transcribe/](http://learn.genetics.utah.edu/content/basics/transcribe/)
- [https://www.dnalc.org/resources/3d/central-dogma.html](https://www.dnalc.org/resources/3d/central-dogma.html)
- [https://commons.wikimedia.org/wiki/File:DNA_replication_en.svg](https://commons.wikimedia.org/wiki/File:DNA_replication_en.svg)
Textbook Choices

1.2 Learning Links: Chemistry

Below are online sources to help you study for this unit. Remember that what you will be required to know for the quiz is the material in the study guide and worksheet for this unit. The links below will help you answer those questions, but you are not required to know everything covered in these links. I would recommend looking at as many of these links as is necessary for you to be able to answer the questions in the worksheet and study guide.

Textbook Link

CK-12 - Chemistry
CK-12 - Nutrition
Open Stax chapter on chemistry

Other Link

Khan Academy: chemistry
Khan Academy: water
Khan Academy: carbon
An interactive periodic table
Practice building an atom
Water and solutions simulation
Test your water knowledge

Videos

Chemistry Basics
The periodic table and atomic structure
https://www.youtube.com/watch?v=sRPejoNktKE&list=PL6CmKEkVCe

1.2 Study Guide: Chemistry

What do I need to know for this week?

Study Questions:

1. Define the following terms:
   a. Atom, molecule, organic
   b. Polar, non-polar
   c. Hydrophobic, hydrophilic, amphipathic
   d. Hydrogen bond, covalent bond, ionic bond
   e. Homeostasis
   f. Monomer, polymer

2. Draw a molecule of water
   a. Explain why water is polar and how this polarity results in the formation of hydrogen bonds.
   b. What type of molecules are hydrophilic? What type of molecules are hydrophobic?
   c. Explain why the surface tension of water allows small insects to "walk on water".
   d. Explain why ice floats on liquid water.
   e. Explain why charged molecules (ions) dissolve in water.
   f. What are 2 other characteristics of water that are important for living organisms?

3. What does pH measure?
   a. What happens to the concentration of H+ as pH increases? What happens to the concentration of H+ as pH decreases?
   b. Why are buffers important?
   c. How do buffers work?

4. List the 4 important macromolecules for living organisms.
   a. For each explain why it is important.
   b. Which of these macromolecules are polar and which are non-polar?

5. What is the difference between a monosaccharide, disaccharide, and polysaccharide (how many carbon rings does each have?).
   a. Be able to identify a picture as a monosaccharide, disaccharide, or polysaccharide.
   b. Give an example of a monosaccharide. Give an example of a disaccharide. Give an example of a polysaccharide.
   c. Compare and contrast starch and cellulose. (Compare and contrast means discuss the similarities and differences).
   d. Looking at the structure of cellulose vs. starch, explain why cellulose is a better structural polymer. That is, why would cellulose's shape be better for building strong structures?
Provide multiple means of action and expression: provide learners alternatives for demonstrating what they know (essay, diagram, table, outline)

Define & Group the following:

- Peptide Bond
- Lactose
- Cholesterol
- Wax
- Polysaccharide
- Nucleotide
- Cellulose
- Nitrogenous base
- Enzyme
- Triglyceride
- Glycogen
- starch
- Glucose
- Amino acid
- Dissacharide
- Fatty Acid
- Deoxyribose
- Chitin
- Phospholipid
- Ribose
- DNA
- protein
- Glycerol
- RNA

1. Which relationship is different?
   A. Monosaccharide / Polysaccharide
   B. Monosaccharide / Disaccharide
   C. Phospholipid / Lipid
   D. Amino Acid / Protein
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-acetylglucosamine
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.

<table>
<thead>
<tr>
<th>Sugars</th>
<th>Deoxyribose, fructose, glucose, lactose, ribose, sucrose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar Identification</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</td>
<td>Peptide bond, saturated, unsaturated</td>
</tr>
</tbody>
</table>

Functions of Cell Structures

Chloroplast
- Photosynthesis
- Protein synthesis
- cellular respiration and ATP production
- 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 to move independently keeps the shape of the cell

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http://roola.weebly.com
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Sharing Web Links & Pictures

- https://www.diigo.com/
- https://www.kifi.com/
- http://www.teamgum.com/
- http://www.scrible.com/tour
- http://www.pearltrees.com/
- http://bundlr.com/
Community Service

Yahoo Answers

Environment > Global Warming

What causes global warming?
what are the causes of global warming

1 following  15 answers

Facts on Global Warming - Search for Facts on Global Warming
Ask.com/Facts on Global Warming

Look Up Results on Ask.com.

Answers

Best Answer: Global warming is a natural phase of Earth, caused by some Solar Activities by Sun. We human don't have to bother about it. Some of the environmentalist says that this is because of the CO2 we are emitting into the environment, but the reality is that we are just contributing towards 1% to 10% of actual global warming. If the actual cause of Global Warming is CO2 emitted by the humans then why Global Warming occurs on other planets. Just Google for "Global Warming on other planets" and see the results, there are no humans on other planets.

Having too little CO2 in the environment will cause for the plants to die more early, more over it also cools down the temperature on earth.

Having too much CO2 (obviously, not caused by humans. Mostly generated in the Sea/Oceans) will lead to Green House effect and will lead in increasing the temperature on Earth.

So, the best is to plant more trees so that there would be a balance for the consumption of CO2 on the planet.

I personally think that instead of thinking on this baseless issue try to think on what if Nuclear War broke out in the world, it will destroy Earth more rapidly.

So, next time whenever somebody says you about global warming, just ignore it.
Open Pedagogy
Students can add to the world of education too!
# Teach with Wikipedia

[https://wikiedu.org/](https://wikiedu.org/)

**Instructor**
- Check Dashboard: all students enrolled & on track with tutorials
- Approve topics, support student research, respond to concerns
- Grade draft, evaluate peer review feedback
- Final grading: all tutorials completed, all work submitted to Wikipedia

**Dashboard support**
- Usernames tracked
- Tutorial completion tracked
- Topic selection finalized & archived
- All student edits tracked, easily accessible
- Staff trouble-shooting help
- All page interactions tracked
- Final contributions summarized

**Students**
- **Create** Wikipedia account
- **Learn** how to edit Wikipedia
- **Research** topic
- **Analyze** sources
- **Draft** contribution + peer review
- **Publish** live on Wikipedia
- **Respond** to Wikipedia community feedback
- **Make** final changes

**samantha@wikiedu.org**
Have students create a textbook

[Link to Butte Biology]

---

Starting at the top of the Pyramid:

Course design begins with two essential questions: what will the students gain from this class and how does the course design support this. This strategy of course design (often referred to as backwards design) helps instructors develop courses that have a clear and directed purpose and plan. I have designed a course using a backwards design approach.

---

Learning through Creation

In this course design we will move students from being consumers of information to being producers of informational content. Rather than simply read a textbook (or watching a video, or doing an activity) to gain information, students will learn the same content by analyzing how information is presented. They will then engage in a series of assigned projects.
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