

Chapter 1

1. What are the properties and processes of life?

Reproduction, evolution, Order, Regulation, Growth and development, Energy Utilization, Response to the environment

2. What is the control in an experiment

The Unchanged one

3. What is the variable in an experiment

The one being tested

4. Does a prokaryotic cell have a nucleus?

NO.

5. How do you graph a line

You take the points and graph them

chapter 2

1. What is a radio active isotope
2. What is a stable bond
3. What is the difference between a stable bond and a radio active bond

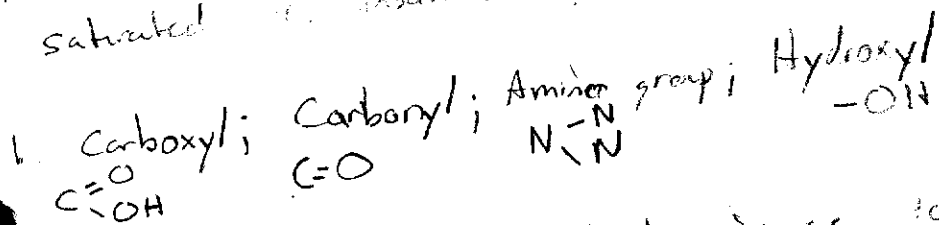
What makes bonds cohesive

Why do they last

1. An isotope which nucleus decays gives off particles and energy
2. A time zone - An abbreviation between opposing charged ions
3. A covalent bond is between two atoms where one electron pair is shared between them. When an atom gains or loses an electron it becomes an ion.
4. What makes water cohesive and have hydrogen bonds
5. Ice floats because it is more stable hydrogen bonds are ice than the molecules in water

Brown Still Chapter 3

1. What are the names of the 4 functional groups and what are the bonding they contain?
2. What are the functions of the 3 carbohydrates?
3. How can two different molecules like glucose and fructose be similar and different?
4. What difference determines whether a lipid is either saturated or unsaturated and what are examples?



2. Monosaccharides - main fuel source for cellular work
 Disaccharides - fuel for monosaccharides
 Polysaccharides - Storage for extra energy

3. They are isomers meaning they have the same molecular formula but different structures

4. Whether a lipid is saturated or unsaturated is determined by the number of hydrogen atoms at the point of a double bond.
- Saturated = the maximum
 Unsaturated = fewer than the

Amin Khan

Chap 1 Summary

1. How is the nucleus region of a prokaryotic cell different from the nucleus of a eukaryotic cell?
no membrane enclosing the prokaryotic nucleus.
2. What is relation between chromosomes and chromatids?
Chromatids are made of chromatin.
3. What polysaccharide is the primary component of plant cell walls?
cellulose
4. Why do phospholipids tend to arrange into a bilayer in an aqueous solution?
hydrophilic tails of phospholipids and water exposing head to water.

5. What does the golgi apparatus do?

Chap 2 Summary

1. Ordinary cell division takes place in "daughter" cells that are genetically identical.
Name 3 functions of this type of cell division?
cell growth, growth of the organism
asexual reproduction of the organism.

2. Name the phases of mitosis and its function.

3. What part of chromosome consists of 2 chromatids?

Chapter 5

1. What is the difference between kinetic energy and potential energy?

Kinetic energy is the energy of motion itself.
Potential energy is energy an object has because location and arrangement.

2. What is entropy?

Randomness or measure of disorder

3. What is an example of chemical energy?

Fossil Fuel

4. What is diffusion?

Dispersment of molecules from high to low concentration

5. What is a calorie

A calorie is the amount of energy in food.

6. How does ATP drive cellular work?

Each type of work is powered when enzymes transfer phosphate from ATP to the recipient.

7. Diffusion through a membrane is called _____

Passive Transport

8. What is osmosis?

The movement of water through a cell without energy

9. Differences between hypertonic and hypotonic and isotonic

hypertonic is the solution with a higher concentration solute.

hypotonic is the solution with a lower concentration solute.

Isotonic are solutions of equal solute concentration.

10. What is Active transport?

Active transport needs energy to move molecule.

Dr. Smith

Chapter 6

1. What is cellular Respiration and where does it take place? Is it done by all organisms? What kind of reaction is it?
2. What are the 3 steps of cellular respiration which is the first? Last? which produces the most amount of energy?
3. In Glycolysis what takes place in the Energy Investment phase and in the Energy harvest phase? What is the net ATP gained?
4. What is inputted into the Citric Acid cycle? What is produced and how?
5. What are transported by the NADH to the inner mitochondrial membrane? As the transported molecules fall what happens they go down the protein membrane? As the protons through molecule rush down something they produce a massive amount of ATP?
6. What type of respiration is fermentation? From what part of cellular respiration does it come from? Why can't Fermentation be sustained for a long period of time?
7. Name the two different kinds of Fermentation and how they are different from each other?
8. What is a facultative anaerobe, an obligate anaerobe, and an obligate aerobe?

Brain Stix

1. Cellular Respiration is a process that takes place in the mitochondria, it is an Aerobic Harvester, that occurs in all eukaryotic organisms. A redox reaction
2. The 3 steps are Glycolysis, Citric Acid Cycle, and Electron transport. The Electron transport produces the most energy
3. In the Energy investment phase 2 ATPs are put in to break down glucose. In the Energy harvest phase glycolysis generates ATP directly and creates 2 pyruvic acid donating electrons to NAD^+ to create NADH
4. Inputted are Acetic acid / ADP / 3NAD^+ / FAD
Outputted are 2CO_2 / ATP / 3NADH / FADH_2
The Citric Acid Cycle finishes breaking down the sugar energy to produce 2 ATPs. Electron carriers are given an electron and sent to the electron transport chain.
5. Electrons, H^+ molecules, H^+ rush back down a proton synthase, which releases a massive amount of energy
6. Fermentation = Anaerobic harvest. Glycolysis

Steven

Chapter 7

How does the electron transport
work?

What is photophosphorylation?

What does the Calvin cycle do?

Where is the Calvin cycle?

What is the Calvin cycle cycle?

What does the Calvin cycle make?

How does global warming affect photosynthesis?

Is Calvin cycle light dependent or light
independent?

What is needed for photosynthesis?

What does photosynthesis create?

1. Draw graph of $\log_{10} \nu$ electron energy
vs. $\log_{10} T_{\text{e}}$ light emitted
electron from recombination center.