


Pool Canvas

Add, modify, and remove questions. Select a question type from the Add Question drop-down list and click **Go** to add questions. Use Creation Settings to establish which default options, such as feedback and images, are available for question creation.

Add [Creation Settings](#)

Name Chapter 1--Biochemistry and the Organization of Cells

Description

Instructions

[Modify](#)

[Add Question Here](#)

Question 1 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question How do the molecules that play a role in living cells compare to those encountered in organic chemistry?

- Answer** They are the same, just operating in a different context.
 Biological molecules are organic molecules, but the similarity ends there.
 Biological molecules aren't similar to organic molecules at all.
 Biology isn't based on molecules at all, but a "vital force".

[Add Question Here](#)

Question 2 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Which of the following best defines **organic chemistry**?

- Answer** The study of compounds contained in organisms.
 The study of compounds containing organs.
 The study of compounds containing carbon and hydrogen and their derivatives.
 The study of compounds containing elements other than carbon.

[Add Question Here](#)

Question 3 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Which of the following was part of the **vital force theory**?

- Answer** The compounds found in living things are just like those found in the non-living world.
 The compounds found in living things are interesting, but can easily be produced in the laboratory.
 The compounds found in living things can not be produced in the laboratory.

[Add Question Here](#)

Question 4 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question The synthesis of urea from ammonium cyanate.

- Answer** was a critical component of the Miller-Urey experiment.
 requires a protein as a catalyst.
 helped dispel the vital force theory.
 supported the vital force theory.

[Add Question Here](#)

Question 5 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Which of the following is NOT a Functional Group

- Answer** Amino group
 Protein
 Alcohol group
 Carbonyl group

[Add Question Here](#)

Question 6 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Which of the following functional groups are not commonly seen in biomolecules?

- Answer** Alkyl halides
 Amides
 Carboxylic acids
 Ethers
 Phosphate esters

[Add Question Here](#)

Question 7 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Which of the following statements regarding biomolecules is **false**?

- Answer** They contain predominantly ionic bonds.
 They contain predominantly nonmetallic elements.
 Carbon is the key element.
 Specific stereoisomers are essential in most cases.

[Add Question Here](#)

Question 8 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question All of the following bonds are important in biomolecules, **except**:

- Answer** C-Cl
 C-H
 C-N

O-H
O-P

[◀ Add Question Here](#)

Question 9 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Which of the following statements regarding biopolymers is false?

- Answer**
- Different sequences of the monomers can lead to different functions.
 - ✓ Only soluble polymers can be created from soluble monomers.
 - A wide, almost uncountable variety of polymers can be created from just a few monomers.
 - Different linkages between the monomers can lead to different functions.
 - Biopolymers can fold up into complex shapes.

[◀ Add Question Here](#)

Question 10 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Which statement is **not** correct about peptide nucleic acids, PNA?

- Answer**
- They are combinations of peptides and nucleic acids.
 - Scientists create them to study the origins of life
 - ✓ They were proven to be the first hereditary molecule.
 - They may combine the catalytic properties of proteins with the information transfer ability of nucleic acid
 - All of these statements apply to PNA.

[◀ Add Question Here](#)

Question 11 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question Rank the following levels of structural organization in terms of size from smallest to biggest:

- Answer**
- ✓ atoms < molecules < organelles < cells < organs
 - atoms < organelles < molecules < cells < organs
 - atoms < molecules < cells < organelles < organs
 - molecules < atoms < organelles < cells < organs
 - atoms < molecules < organelles < organs < cells

[◀ Add Question Here](#)

Question 12 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question According to the big bang theory of the creation of the universe,

- Answer**
- ✓ the universe has been getting cooler since its beginning
 - the initial explosion caused the creation of all of the elements of the periodic table
 - carbon is the most abundant element in the universe
 - the earth could be no older than 1 billion years

[◀ Add Question Here](#)

Question 13 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question In its earliest stages, which atoms were present in the universe?

- Answer**
- carbon, hydrogen, and oxygen
 - ✓ hydrogen, helium, and lithium
 - nitrogen, sulfur, and phosphorous
 - uranium, polonium, and radium
 - helium, neon, and argon

[◀ Add Question Here](#)

Question 14 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question How are the majority of elements thought to have been formed?

- Answer**
- By thermonuclear reactions that normally take place in stars.
 - In explosions of stars.
 - By the action of cosmic rays outside the stars since the formation of the galaxy.
 - ✓ All of the above.
 - None of the above; all the elements were present from the initial Big Bang.

[◀ Add Question Here](#)

Question 15 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question What is the chemical formula for ozone?

- Answer**
- O₂
 - ✓ O₃
 - NH₃
 - H₂S
 - CH₄

[◀ Add Question Here](#)

Question 16 **Multiple Choice** **0 points**

[Modify](#) [Remove](#)

Question It is generally believed that the following gas was missing in the primordial atmosphere:

- Answer**
- H₂
 - CO₂
 - CH₄



[Add Question Here](#)

[Modify](#) [Remove](#)

Question 17 **Multiple Choice** **0 points**

Question A catalyst

- Answer** ✓ increases the rate of a chemical reaction
 increases the amount of product obtained in a chemical reaction
 decreases the amount of product obtained in a chemical reaction
 none of the above

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 18 **Multiple Choice** **0 points**

Question The genetic coding material is

- Answer** protein
 ✓ DNA
 polysaccharide
 lipid

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 19 **Multiple Choice** **0 points**

Question This question was moved to the Matching section in ExamView.

(To maintain the integrity of the numbering system between the printed copy and ExamView, this question has been marked "do not use on test" in ExamView's question information dialog.)

- Answer** ✓ not available
 not available
 not available
 not available

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 20 **Multiple Choice** **0 points**

Question Which of the following best describes the results of the Miller-Urey experiment?

- Answer** It proved that DNA is the genetic material.
 It produced proteins under conditions simulating the early Earth.
 It created living cells from non-living materials.
 ✓ It produced some simple organic compounds from a mixture of gases presumed to have existed in the early atmosphere.
 All of these results of the Miller-Urey experiment.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 21 **Multiple Choice** **0 points**

Question The genetic code

- Answer** determines the order of sugars in a polysaccharide
 has no effect on the sequence of amino acids in proteins
 ✓ is the means by which the "blueprint" for living organisms is passed from one generation to the next
 cannot be understood by currently available experimental methods

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 22 **Multiple Choice** **0 points**

Question Biological catalysts are

- Answer** proteins exclusively
 RNA exclusively
 DNA exclusively
 ✓ some proteins and some RNA

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 23 **Multiple Choice** **0 points**

Question The main difference between prokaryotic and eukaryotic cells is the existence of ____ in eukaryotes.

- Answer** ✓ the nucleus
 ribosomes
 DNA
 RNA
 cell walls

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 24 **Multiple Choice** **0 points**

Question All of the following features are common to all living organisms, **except**:

- Answer** Biomolecules
 Metabolic pathways
 ✓ Cellular structures
 DNA sequences
 RNA molecules

[Add Question Here](#)

- Question 25 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** All eukaryotic organisms
- Answer**
- are multicellular
 - have a nucleus
 - have chloroplasts
 - have a cell wall
- [Add Question Here](#)
- Question 26 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** Cell membranes
- Answer**
- are found in plants, but not in animals
 - consist mainly of sugars
 - do not allow transport into or out of the cell
 - separate the cell from the outside world
- [Add Question Here](#)
- Question 27 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** Which of the following is **not** a subcellular organelle?
- Answer**
- nucleus
 - mitochondrion
 - endoplasmic reticulum
 - cytoskeleton
- [Add Question Here](#)
- Question 28 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** Energy-yielding oxidation reactions take place in eukaryotic
- Answer**
- nuclei.
 - ribosomes.
 - mitochondria.
 - endoplasmic reticula.
 - cell walls.
- [Add Question Here](#)
- Question 29 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** Prokaryotic cells
- Answer**
- do not have a well defined nucleus
 - are smaller than eukaryotic cells
 - do not have internal membranes
 - all of the above
- [Add Question Here](#)
- Question 30 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** Prokaryotes
- Answer**
- contain ribosomes
 - do not have a cell membrane
 - contain mitochondria
 - none of the above
- [Add Question Here](#)
- Question 31 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** Ribosomes
- Answer**
- are the site of photosynthesis
 - are the site of protein synthesis
 - are never bound to membranes
 - cannot be seen in the electron microscope
- [Add Question Here](#)
- Question 32 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** 11 Ribosomes are made up of
- Answer**
- RNA and proteins
 - DNA and proteins
 - RNA and DNA
 - proteins and carbohydrates
- [Add Question Here](#)
- Question 33 Multiple Choice 0 points** [Modify](#) [Remove](#)
- Question** Which of the following cellular components is commonly found in bacteria?
- Answer**
- Nucleus
 - Ribosomes
 - Chloroplasts
 - Mitochondria
 - More than one of these is characteristic of bacteria.
- [Add Question Here](#)

Question 34 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which organelle does not contain DNA?

- Answer**
- Nucleus
 - Mitochondrion
 - ✓ Rough Endoplasmic Reticulum
 - Chloroplast
 - All of these organelles contain DNA

◀ [Add Question Here](#)

Question 35 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which cell component is composed of RNA and protein?

- Answer**
- Nucleus
 - Mitochondrion
 - Endoplasmic Reticulum
 - Chloroplast
 - ✓ Ribosome

◀ [Add Question Here](#)

Question 36 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which cell component has cristae?

- Answer**
- Nucleus
 - ✓ Mitochondrion
 - Endoplasmic Reticulum
 - Chloroplast
 - Ribosome

◀ [Add Question Here](#)

Question 37 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which organelle is involved in the synthesis of ATP?

- Answer**
- Nucleus
 - Mitochondrion
 - Chloroplast
 - ✓ ATP is synthesized in both mitochondria and chloroplasts.
 - ATP is synthesized in all three organelles.

◀ [Add Question Here](#)

Question 38 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Eukaryotic DNA

- Answer**
- is found in the nucleus
 - is found in the mitochondrion
 - is found in the chloroplast
 - ✓ all of the above

◀ [Add Question Here](#)

Question 39 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which of the following statements about eukaryotic nuclei is FALSE?

- Answer** ✓
- They are separated from the rest of the cell by a single membrane.
 - They contain RNA.
 - They contain chromatin.
 - They play a role in genetics.

◀ [Add Question Here](#)

Question 40 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which cell component does **not** have a double membrane?

- Answer**
- Nucleus
 - ✓ Lysosome
 - Rough Endoplasmic Reticulum
 - Chloroplast
 - Mitochondrion

◀ [Add Question Here](#)

Question 41 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which of the following statements about eukaryotic mitochondria is TRUE?

- Answer**
- They play a role in genetics.
 - They are the site of photosynthesis in green plants.
 - ✓ They have an inner and an outer membrane.
 - They only occur in animals, not plants.

◀ [Add Question Here](#)

Question 42 **Multiple Choice** **0 points**

[Modify](#) | [Remove](#)

Question Which is **not** a property of ribosomes?

- Answer**
- They are an assembly of polypeptides and RNA.
 - They are found in both prokaryotic and eukaryotic cells.
 - They function as agents in the biosynthesis of proteins.
 - ✓ They are found in the cytoplasm and smooth endoplasmic reticulum.
 - All of these statements are true about ribosomes.

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 43 **Multiple Choice** **0 points**

Question Which cell component is able to capture the energy of light?

- Answer**
- Nucleus
 - Lysosome
 - Rough Endoplasmic Reticulum
 - ✓ Chloroplast
 - Mitochondrion

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 44 **Multiple Choice** **0 points**

Question Which cell component contains many hydrolytic enzymes?

- Answer**
- Nucleus
 - ✓ Lysosome
 - Rough Endoplasmic Reticulum
 - Chloroplast
 - Mitochondrion

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 45 **Multiple Choice** **0 points**

Question The following cellular component is characteristic of eukaryotic cells:

- Answer**
- Nucleus
 - Ribosomes
 - Chloroplasts
 - Mitochondria
 - ✓ More than one of these is characteristic of eukaryotic cells.

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 46 **Multiple Choice** **0 points**

Question The following cellular component is the defining component of eukaryotic cells:

- Answer**
- ✓ Nucleus
 - Ribosomes
 - Chloroplasts
 - Mitochondria
 - Cell membranes

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 47 **Multiple Choice** **0 points**

Question The mitochondrial matrix

- Answer**
- ✓ is the location of enzymes needed for oxidation reactions
 - contains an array of microtubules
 - is part of the endoplasmic reticulum
 - lies between the inner and outer mitochondrial membrane

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 48 **Multiple Choice** **0 points**

Question The following cellular component is the defining component of most plant cells:

- Answer**
- Nucleus
 - Ribosomes
 - ✓ Chloroplasts
 - Mitochondria
 - Cell walls

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 49 **Multiple Choice** **0 points**

Question The endoplasmic reticulum

- Answer**
- is part of a continuous membrane system throughout the cell
 - occurs in two forms, rough and smooth
 - can have ribosomes bound to it
 - ✓ all of the above

◀ [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 50 **Multiple Choice** **0 points**

Question Chloroplasts

- Answer**
- contain no DNA
 - are bounded by a single membrane
 - are relatively small organelles
 - ✓ are the site of photosynthesis in green plants

Question 51	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question The Golgi apparatus</p> <p>Answer <input type="checkbox"/> occurs in prokaryotes <input checked="" type="checkbox"/> is involved in secretion of proteins from the cell <input type="checkbox"/> is part of the chloroplast <input type="checkbox"/> is the site of protein synthesis</p>			
Question 52	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question Lysosomes, peroxisomes, and glyoxysomes are</p> <p>Answer <input type="checkbox"/> sites of cell damage <input type="checkbox"/> important in mitosis <input checked="" type="checkbox"/> specialized organelles <input type="checkbox"/> a part of the rough endoplasmic reticulum</p>			
Question 53	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question Cell walls</p> <p>Answer <input checked="" type="checkbox"/> occur in plants and bacteria <input type="checkbox"/> occur in plants and animals <input type="checkbox"/> occur only in plants <input type="checkbox"/> occur only in bacteria</p>			
Question 54	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question Animal cells do not contain</p> <p>Answer <input type="checkbox"/> a nucleus <input type="checkbox"/> mitochondria <input checked="" type="checkbox"/> chloroplasts <input type="checkbox"/> lysosomes</p>			
Question 55	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question A kind of cellular structure present in plant cells but not in human cells is</p> <p>Answer <input type="checkbox"/> the endoplasmic reticulum <input checked="" type="checkbox"/> a cell wall <input type="checkbox"/> ribosomes <input type="checkbox"/> a plasma membrane</p>			
Question 56	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question Which of the following organelles does not have a double membrane?</p> <p>Answer <input type="checkbox"/> mitochondrion <input type="checkbox"/> nucleus <input checked="" type="checkbox"/> endoplasmic reticulum <input type="checkbox"/> chloroplast</p>			
Question 57	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question Which of these kingdoms includes only prokaryotic organisms?</p> <p>Answer <input type="checkbox"/> Animals <input type="checkbox"/> Fungi <input checked="" type="checkbox"/> Monera <input type="checkbox"/> Plants <input type="checkbox"/> Protista</p>			
Question 58	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question Which of these eukaryotic kingdoms consists primarily of unicellular organisms?</p> <p>Answer <input type="checkbox"/> Animals <input type="checkbox"/> Fungi <input type="checkbox"/> Plants <input checked="" type="checkbox"/> Protista <input type="checkbox"/> Both fungi and protista.</p>			
Question 59	Multiple Choice	0 points	Add Question Here Modify Remove
<p>Question In the Five Kingdom classification system, human beings would be considered</p> <p>Answer <input checked="" type="checkbox"/> animals. <input type="checkbox"/> protists. <input type="checkbox"/> monera. <input type="checkbox"/> fungi.</p>			

none of the above.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 60 **Multiple Choice** **0 points**

Question In the Three Domain classification system, human beings would be considered

Answer

- Archaeobacteria.
- Eubacteria.
- ✓ Eukarya.
- none of the above.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 61 **Multiple Choice** **0 points**

Question In the Five Kingdom classification system, *Escherichia coli* would be considered

Answer

- animals.
- protists.
- ✓ monera.
- none of the above.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 62 **Multiple Choice** **0 points**

Question In the Three Domain classification system, *Escherichia coli* would be considered

Answer

- Archaeobacteria.
- ✓ Eubacteria.
- Eukarya.
- none of the above.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 63 **Multiple Choice** **0 points**

Question The endosymbiotic theory describes the origin of

Answer

- the nucleus & ribosomes.
- the Golgi and endoplasmic reticulum.
- lysosomes and the cytoskeleton.
- ✓ mitochondria & chloroplasts.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 64 **Multiple Choice** **0 points**

Question Which of following provides evidence for the endosymbiotic theory describing the origin of mitochondria & chloroplasts?

Answer

- These organelles have their own nuclei.
- These organelles have their own endoplasmic reticulum.
- These organelles have their own lysosomes.
- ✓ These organelles have their own DNA.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 65 **Multiple Choice** **0 points**

Question According to thermodynamics, favored processes are

Answer

- ones that require energy.
- ✓ ones that release energy.
- oxidations.
- reductions.

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 66 **Multiple Choice** **0 points**

Question Which of the following is/are true?

Answer ✓

- The hydrolysis of ATP releases energy.
- Favorable reactions are always fast.
- The hydrolysis of ATP requires the input of oxygen
- The hydrolysis of ATP yields more energy per molecule than the reaction of any other compound

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 67 **Multiple Choice** **0 points**

Question The aerobic combustion of glucose to yield carbon dioxide and water

Answer

- is thermodynamically favorable
- requires oxygen
- has a negative Gibb's free energy
- ✓ all of these are true

[Add Question Here](#)

[Modify](#) [Remove](#)

Question 68 **Multiple Choice** **0 points**

Question A spontaneous reaction is

Answer ✓

- exergonic.
- endergonic.
- at equilibrium.
- none of the above.

Question 69 Multiple Choice 0 points[◀ Add Question Here](#)[Modify](#) [Remove](#)**Question** The heat of a reaction at constant pressure is

- Answer**
- its change in entropy.
 - its change in enthalpy.
 - its change in free energy.
 - its spontaneity.

[◀ Add Question Here](#)[Modify](#) [Remove](#)**Question 70 Matching 0 points****Question** Match the macromolecules with the monomeric unit in each.

Answer	Match Question Items	Answer Items
B.	- A. amino acid	A. nucleic acids
C.	- B. monosaccharide	B. proteins
A.	- C. nucleotide	C. carbohydrate

[◀ Add Question Here](#)[OK](#)