

# [Solve general biology 1](https://assignbuster.com/solve-general-biology-1/)

Current Location Take Test: Homework #5 Photosynthesis & Cellular Communication Content Top of Form Assistive Technology Tips [opens in new window]   
Instructions   
Description   
Homework #5 Photosynthesis & Cellular Communication is due by this Sunday night, October 21, at 10: 00pm. Login to Blackboard to complete the assignment anytime between now and then, and once you are finished push Save and Submit.   
Instructions   
Multiple Attempts   
Not allowed. This Test can only be taken once.   
Force Completion   
This Test can be saved and resumed later.   
Question Completion Status:   
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20   
Question 1   
  
The primary source of energy for most organisms is ultimately derived from   
Answer   
A.   
glucose   
B.   
plants   
C.   
glycogen   
D.   
the sun   
E.   
catabolism   
2 points   
Question 2   
  
These organisms most specifically utilize light energy to make organic molecules from inorganic molecules.   
Answer   
A.   
photoautotrophs   
B.   
photoheterotrophs   
C.   
photoisotrophs   
D.   
photohemitrophs   
E.   
heterotrophs   
3 points   
Question 3   
  
The main structure for gas exchange in plants is called the   
Answer   
A.   
mesophyll   
B.   
chloroplast   
C.   
grana   
D.   
stomata   
E.   
2 points   
Question 4   
  
Which of the following statements would be most INCORRECT if there were a sudden decline in plants on Earth?   
Answer   
A.   
oxygen levels in the environment might decline   
B.   
the rate of photosynthesis in existing plants would decline   
C.   
there would be less organic matter on Earth   
D.   
a decline in the populations of herbivores would likely occur   
E.   
heterotrophic organisms would be significantly impacted   
2 points   
Question 5   
  
Which of the following is NOT a product of the light reaction?   
Answer   
a.   
NADPH   
b.   
energy intermediates   
c.   
Adenosine triphosphate   
d.   
oxygen   
e.   
carbon dioxide   
2 points   
Question 6   
  
Which of the following statements about chlorophyll is correct?   
Answer   
A.   
It appears green because it absorbs light in the green light spectrum.   
B.   
It reflects all colors in the light spectrum except green.   
C.   
It reflects light in the green light spectrum.   
D.   
It reflects high-energy electrons.   
E.   
All of the choices are correct.   
2 points   
Question 7   
  
Which of the following is mismatched with its location?   
Answer   
A.   
light reaction; grana   
B.   
electron transport; thylakoid lipid bilayer   
C.   
Calvin cycle; stroma   
D.   
ATP synthase; intermembrane space   
E.   
splitting of water; thylakoid lumen   
2 points   
Question 8   
  
Which of the following is FALSE when comparing the mitochondria and chloroplast?   
Answer   
A.   
Both have similar electron transport protein complexes.   
B.   
Both contain ATP synthase.   
C.   
Both generate ATP via a H+ electrochemical gradient.   
  
D.   
The inner-membrane space of the mitochondria is similar to that of the thylakoid lumen insofar as each has a higher H+ concentration relative to that of the mitochondrial matrix and chloroplast stroma.   
E.   
The stroma of chloroplasts is similar to that of the mitochondrial inner-membrane space insofar as each has a higher H+ concentration relative to that of the chloroplast thylakoid lumen and the mitochondrial matrix.   
2 points   
Question 9   
  
During noncyclic electron flow of the light reaction, which molecule is the final acceptor of the high-energy electron?   
Answer   
A.   
water   
B.   
P700   
C.   
NADP+   
D.   
P680   
E.   
oxygen   
2 points   
Question 10   
  
During photosynthesis, the energy given up by electrons as they move through the electron transport chain is used to   
Answer   
A.   
produce glucose   
B.   
fix CO2.   
C.   
generate an electrochemical H+ gradient across a membrane.   
D.   
oxidize water   
E.   
boost energy levels of pigment electrons.   
2 points   
Question 11   
  
Which of the following represents a reactant or input for the light reaction of photosynthesis?   
Answer   
A.   
carbon dioxide   
B.   
H2O   
C.   
oxygen   
D.   
ATP   
E.   
NADPH   
2 points   
Question 12   
  
What is the main role of the pigment molecules within the antenna or light-harvesting complex?   
Answer   
A.   
Oxidize water and release oxygen to the reaction center chlorophyll.   
B.   
Absorb photons and transfer light energy to the reaction center chlorophyll.   
  
C.   
Synthesize NADPH.   
D.   
Pass electrons to the electron transport chain and then to NADPH.   
E.   
Increase H+ concentration in the stroma.   
2 points   
Question 13   
  
The Calvin cycle is only capable of fixing carbon dioxide in the dark.   
Answer True   
False   
2 points   
Question 14   
  
Which order of events for the Calvin cycle is correct?   
I. Reduction   
II. Regeneration of the CO2 acceptor (RuBP)   
III. Carbon fixation   
Answer   
A.   
I, II, III   
B.   
III, II, I   
C.   
III, I, II   
D.   
I, III, II   
2 points   
Question 15   
  
This molecule combines with CO2 to form the 3-carbon substance, 3-phosphoglycerate.   
Answer   
A.   
glyceraldehyde-3-phosphate (G3P)   
B.   
glucose   
C.   
ribulose biphoshpate (RuBP)   
D.   
glycerol   
E.   
nicotinamide adenine dinucleotide phosphate (NADPH)   
2 points   
Question 16   
  
Which of the following has the highest photosynthetic efficiency in hot and dry environments?   
Answer   
A.   
C3 plants   
B.   
C4 plants   
C.   
plants undergoing photorespiration   
D.   
plants that use oxygen to produce sugars   
E.   
plants that only produce sugar in the dark   
2 points   
Question 17   
  
CAM plants have temporal adaptations which allow the fixation of carbon dioxide through stomata only during the night, while C4 plants exhibit morphological adaptations and can keep stomata partially open during the day even under hot and dry temperatures, storing the fixed carbon in specialized cells.   
Answer True   
False   
1 points   
Question 18   
  
\_\_\_\_\_\_\_\_ is the process through which cells can detect and respond to signals in their extracellular environment.   
Answer   
Reception   
Transduction   
Cell communication   
Sensory response   
2 points   
Question 19   
  
A substrate binds an enzyme as a signal molecule binds a   
Answer   
A.   
second messenger.   
B.   
kinase.   
C.   
transcriptional factor.   
  
D.   
receptor.   
  
2 points   
Question 20   
  
Hormones regardless of whether they operate locally or at long distances must bind a receptor to elicit a cell response.   
Answer True   
False   
2 points   
Save and Submit   
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