

## Test: Photosynthesis

Name \_\_\_\_\_

Below is a description of the process of photosynthesis. Read the paragraphs and fill in the blanks in the list.

- \_\_\_\_\_ 1
- \_\_\_\_\_ 2
- \_\_\_\_\_ 3
- \_\_\_\_\_ 4
- \_\_\_\_\_ 5
- \_\_\_\_\_ 6
- \_\_\_\_\_ 7
- \_\_\_\_\_ 8
- \_\_\_\_\_ 9
- \_\_\_\_\_ 10
- \_\_\_\_\_ 11
- \_\_\_\_\_ 12
- \_\_\_\_\_ 13
- \_\_\_\_\_ 14
- \_\_\_\_\_ 15
- \_\_\_\_\_ 16
- \_\_\_\_\_ 17
- \_\_\_\_\_ 18
- \_\_\_\_\_ 19
- \_\_\_\_\_ 20
- \_\_\_\_\_ 21
- \_\_\_\_\_ 22
- \_\_\_\_\_ 23
- \_\_\_\_\_ 24
- \_\_\_\_\_ 25
- \_\_\_\_\_ 26
- \_\_\_\_\_ 27
- \_\_\_\_\_ 28
- \_\_\_\_\_ 29
- \_\_\_\_\_ 30

Photosynthesis is the process in which \_\_\_\_\_ 1 \_\_\_\_\_ from the sun is captured into chemical energy in a molecule of \_\_\_\_\_ 2 \_\_\_\_\_. Photosynthesis requires two steps: the \_\_\_\_\_ 3 \_\_\_\_\_ and the \_\_\_\_\_ 4 \_\_\_\_\_. Photosynthesis takes place in the part of the cell known as the \_\_\_\_\_ 5 \_\_\_\_\_. The first set of reactions takes place in the \_\_\_\_\_ 6 \_\_\_\_\_ and the second set of reactions takes place in the \_\_\_\_\_ 7 \_\_\_\_\_. The reactions of photosynthesis are \_\_\_\_\_ 8 \_\_\_\_\_, \_\_\_\_\_ 9 \_\_\_\_\_ and \_\_\_\_\_ 10 \_\_\_\_\_. The products of photosynthesis are \_\_\_\_\_ 11 \_\_\_\_\_ and \_\_\_\_\_ 12 \_\_\_\_\_.

\_\_\_\_\_ 13 \_\_\_\_\_ absorbs the sunlight and boosts the electrons to higher energy levels. Electrons will leave photosystem II and pass down the \_\_\_\_\_ 14 \_\_\_\_\_ to reach photosystem I. During this process energy is generated to produce \_\_\_\_\_ 15 \_\_\_\_\_. To replace the electrons lost by photosystem II, molecules of \_\_\_\_\_ 16 \_\_\_\_\_ are split.

In photosystem I, high-energy electrons join with the electron carrier \_\_\_\_\_ 17 \_\_\_\_\_ to produce \_\_\_\_\_ 18 \_\_\_\_\_. ATP is produced when \_\_\_\_\_ 19 \_\_\_\_\_ ions flow through the enzyme called \_\_\_\_\_ 20 \_\_\_\_\_ from an area of high concentration to an area of lower concentration. As hydrogen ions pass through this enzyme, the proton spins, creating energy. This energy is used to produce \_\_\_\_\_ 21 \_\_\_\_\_.

The purpose of the light-dependent reactions is to produce two products that are required for the light-independent reactions. These two products are \_\_\_\_\_ 22 \_\_\_\_\_ and \_\_\_\_\_ 23 \_\_\_\_\_.

The light-independent reaction is also known as the \_\_\_\_\_ 24 \_\_\_\_\_ cycle. These reactions occur in the \_\_\_\_\_ 25 \_\_\_\_\_ of the chloroplast. In the light-independent reaction, \_\_\_\_\_ 26 \_\_\_\_\_ combines with \_\_\_\_\_ 27 \_\_\_\_\_ to form a very unstable four-carbon sugar which quickly breaks down to form 2 molecules of a three-carbon sugar known as \_\_\_\_\_ 28 \_\_\_\_\_. This process is known as \_\_\_\_\_ 29 \_\_\_\_\_. The three-carbon sugar combines with hydrogen to form a molecule of \_\_\_\_\_ 30 \_\_\_\_\_. The hydrogen needed for this is supplied by \_\_\_\_\_ 31 \_\_\_\_\_. The energy needed for this is supplied by \_\_\_\_\_ 32 \_\_\_\_\_. Two molecules of \_\_\_\_\_ 33 \_\_\_\_\_ are needed to make one molecule of glucose. \_\_\_\_\_ 34 \_\_\_\_\_ is also regenerated at the end of the reaction so that the reaction may occur again.