

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.