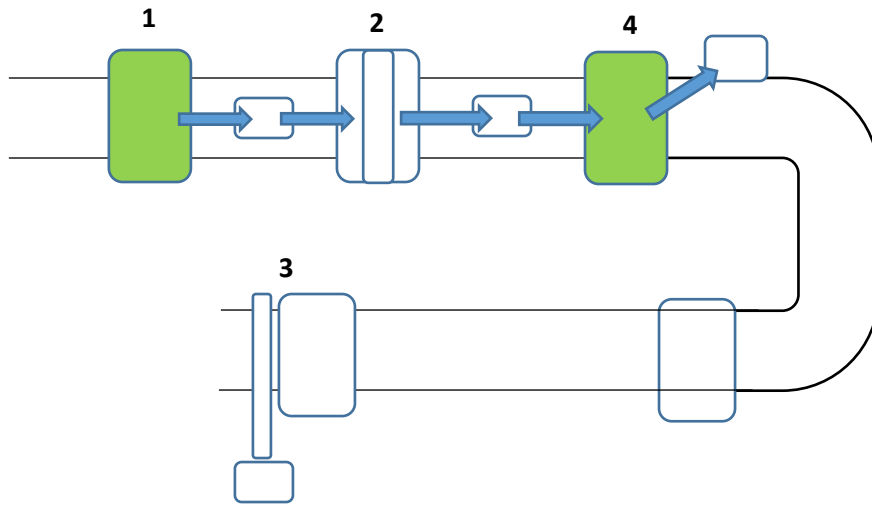


## Photosynthesis HL

1. This is a schematic of the \_\_\_\_\_-dependent reactions which take place in the \_\_\_\_\_.



**(1)** Energy from light \_\_\_\_\_ electrons in \_\_\_\_\_ II due to chlorophyll. This causes electrons to move along the \_\_\_\_\_ transport chain. The electrons must be replaced. The source of these electrons is \_\_\_\_\_. The breakdown of \_\_\_\_\_ is called \_\_\_\_\_. This process causes \_\_\_\_\_ gas to be produced. It is \_\_\_\_\_ as waste.

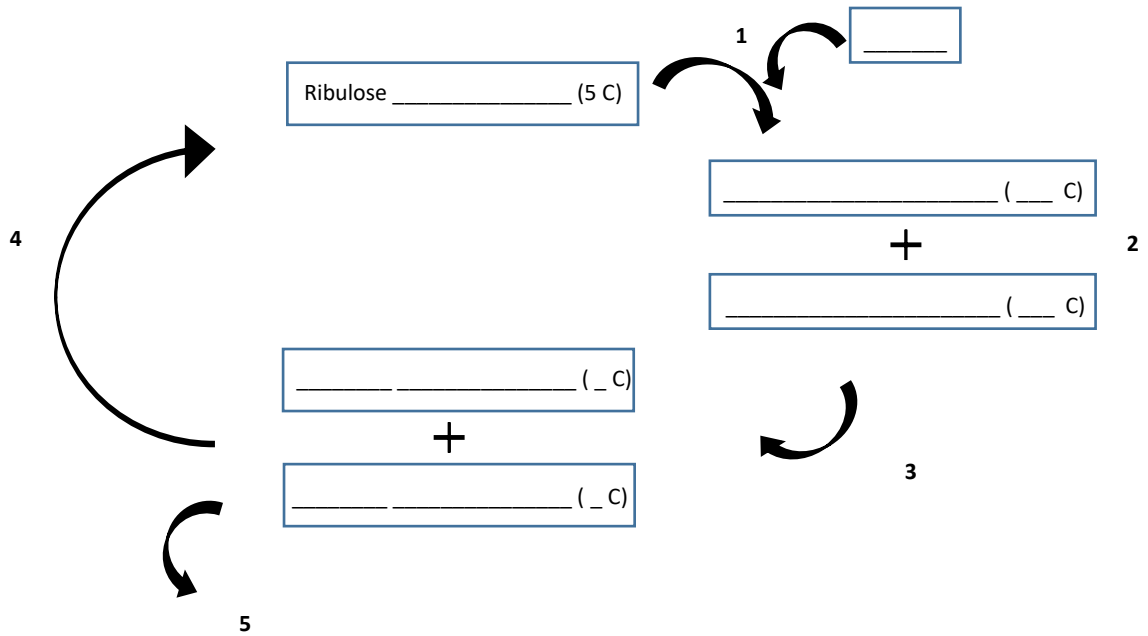
**(2)** As the electrons move along, they pump \_\_\_\_\_ into the \_\_\_\_\_. This creates a \_\_\_\_\_ gradient inside the \_\_\_\_\_.

**(3)** The \_\_\_\_\_ move down the \_\_\_\_\_ gradient through \_\_\_\_\_. This produces large numbers of \_\_\_\_\_ molecules for subsequent reactions.

**(4)** At \_\_\_\_\_ I the electrons gain more energy to replace the energy they have lost. They then move to a membrane protein to convert \_\_\_\_\_ into \_\_\_\_\_.

2. Hence, the \_\_\_\_\_ - dependent reactions are crucial for forming large amounts of \_\_\_\_\_ and \_\_\_\_\_. These products are needed in the light - \_\_\_\_\_ reactions. The only molecule used in this part is \_\_\_\_\_.

3. The \_\_\_\_\_ - \_\_\_\_\_ reactions take place in the \_\_\_\_\_. It is called the \_\_\_\_\_ cycle as well.



(1) The first part of the \_\_\_\_\_ cycle is when ribulose \_\_\_\_\_ joins with \_\_\_\_\_ gas. This is due to the enzyme called \_\_\_\_\_. This is called carbon \_\_\_\_\_ and can also be referred to as the \_\_\_\_\_ of ribulose \_\_\_\_\_.

(2) The molecule splits into two molecules of \_\_\_\_\_.

(3) These molecules react with \_\_\_\_\_ molecules of \_\_\_\_\_, and \_\_\_\_\_ molecules of \_\_\_\_\_ (the carrier). Since the carrier is \_\_\_\_\_, the \_\_\_\_\_ molecules have been \_\_\_\_\_. This forms two molecules of \_\_\_\_\_.

(4) Part of the \_\_\_\_\_ molecules are converted back into ribulose \_\_\_\_\_. This is called \_\_\_\_\_. It requires \_\_\_\_\_.

(5) Part of the \_\_\_\_\_ becomes \_\_\_\_\_ phosphate.

This cycle must occur \_\_\_\_\_ times to create a molecule of \_\_\_\_\_.

4. Draw and annotate a diagram of the chloroplast.