

# Among Plants

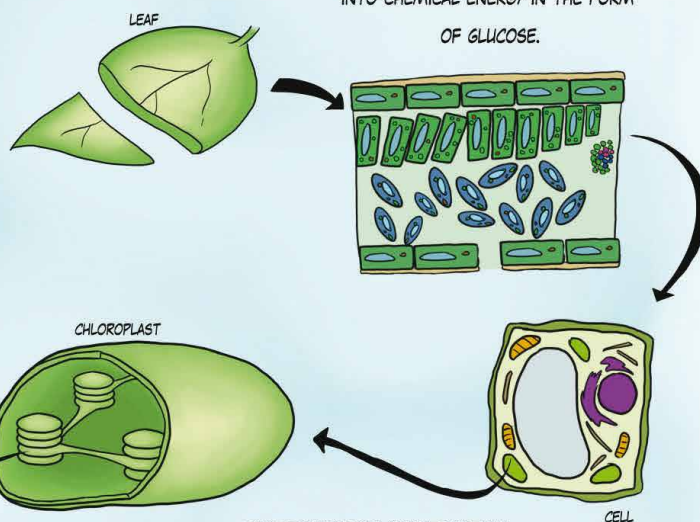
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Drawings: Rubén Molina.

IN THE DEPTHS OF THE JUNGLE,  
A SCIENTIST HAS SPENT YEARS  
RESEARCHING THE PHOTOSYNTHETIC  
PROCESS OF PLANTS.

HE WANTS TO CREATE A NANOHYBRID  
THAT IS ABLE TO REPRODUCE  
THE SAME PROCESS ARTIFICIALLY.

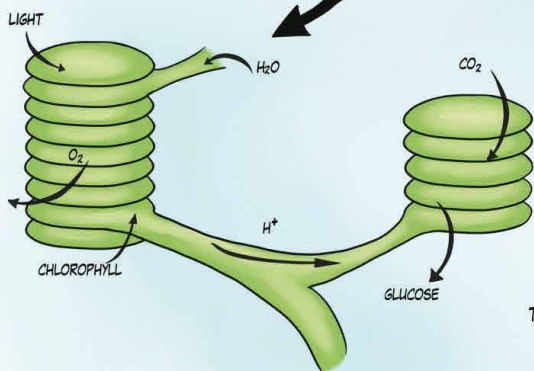


DURING PHOTOSYNTHESIS, PLANTS  
CONVERT THE SUN'S ENERGY  
INTO CHEMICAL ENERGY IN THE FORM  
OF GLUCOSE.



IN THE FIRST PHASE, THE CHLOROPHYLL  
(A PHOTOSENSITIVE MOLECULE) ABSORBS  
LIGHT AND USES IT TO BREAK DOWN  
THE WATER MOLECULES COLLECTED BY THE  
ROOTS. THUS, THE OXYGEN WE BREATHE IS  
GIVEN OFF AND HYDROGEN IS STORED.

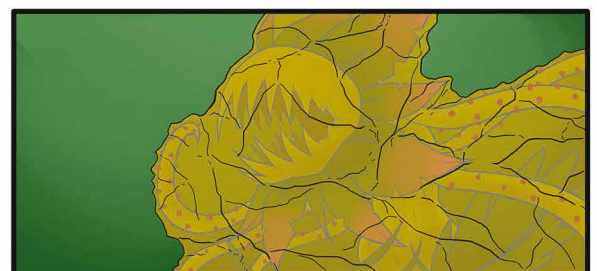
PHOTOSYNTHESIS OCCURS WITHIN  
THE CELLS, IN AN ORGANELLE  
CALLED THE CHLOROPLAST.



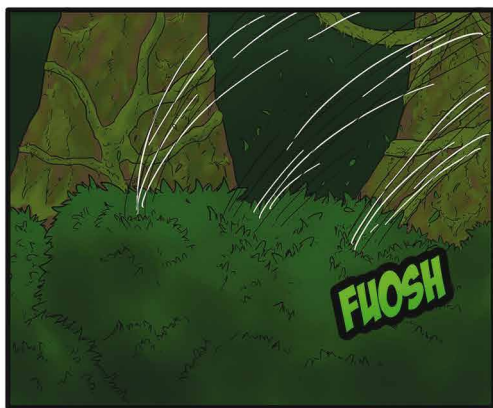
IN THE SECOND PHASE, THE  
HYDROGEN COMBINES WITH  
THE CARBON DIOXIDE THAT  
THE PLANT CAPTURES FROM THE  
ENVIRONMENT SYNTHESIZING  
GLUCOSE. THANKS TO PLANT  
PHOTOSYNTHESIS, WE HAVE  
OXYGEN AND FOOD.



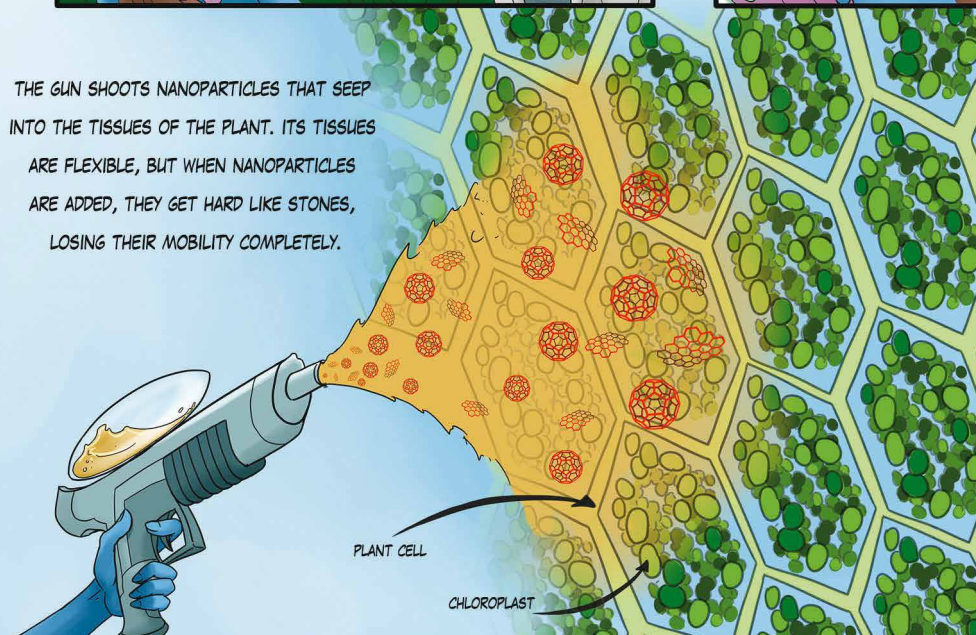




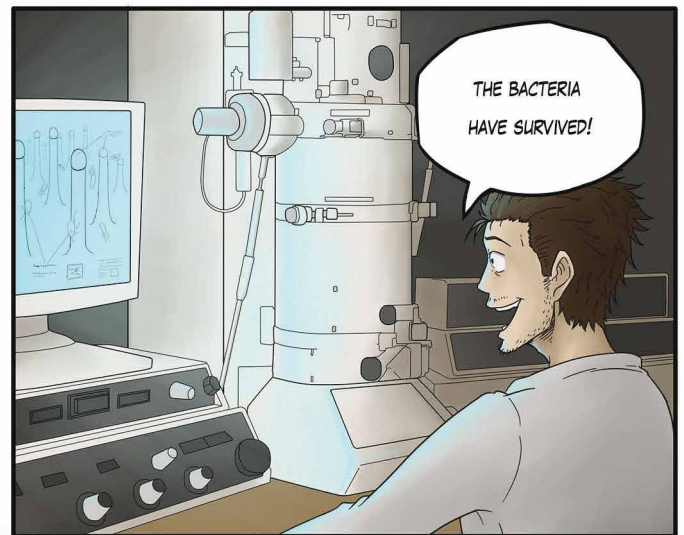




THE GUN SHOTS NANOPARTICLES THAT SEEP INTO THE TISSUES OF THE PLANT. ITS TISSUES ARE FLEXIBLE, BUT WHEN NANOPARTICLES ARE ADDED, THEY GET HARD LIKE STONES, LOSING THEIR MOBILITY COMPLETELY.







WILL THE NANOHYBRID BE ABLE TO BEHAVE LIKE A PLANT?

THE NANOHYBRID HAS TWO COMPONENTS:  
 -SILICON NANOWIRES WITH A BIOCOMPATIBLE COATING.  
 -A CULTURE OF BACTERIA.

THE NANOWIRES SUPPLY ELECTRONS TO THE BACTERIA, AND THE BACTERIA COMBINE HYDROGEN AND CARBON DIOXIDE TO SYNTHESIZE ACETATE.

THE NANOWIRES ABSORB LIGHT AND BREAK UP WATER MOLECULES, RELEASING OXYGEN IN THE PROCESS (LIKE CHLOROPHYLL).

WITH ACETATE, WE CAN CREATE BIODEGRADABLE PLASTICS, LIQUID FUELS, AND EVEN MEDICINES.

THIS IS ARTIFICIAL PHOTOSYNTHESIS:

CONVERTING THE SUN'S ENERGY INTO CHEMICAL ENERGY THANKS TO A NANODEVICE.

