

Preface

Photosynthesis is a biological process used by many organisms to convert light energy into chemical energy, which is stored in organic compounds that can later be metabolized through cellular respiration to fuel the organism's activities. The term usually refers to oxygenic photosynthesis, where oxygen is produced as a byproduct and some of the chemical energy produced is stored in carbohydrate molecules such as sugars, starch, glycogen, and cellulose, which are synthesized from an endergonic reaction of carbon dioxide with water.¹

Respiration is the process by which biological fuels are oxidized in the presence of an inorganic electron acceptor, such as oxygen, to drive the bulk production of adenosine triphosphate (ATP), which contains energy. Cellular respiration may be described as a set of metabolic reactions and processes that take place in the cells of organisms to convert chemical energy from nutrients into ATP, and then release waste products.²

In the present book, ten typical literatures about photosynthesis and respiration published on international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original researches on photosynthesis and respiration. We hope this book can demonstrate advances in photosynthesis and respiration as well as give references to the researchers, students and other related people.

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¹ From: <https://en.wikipedia.org/wiki/Photosynthesis>

² From: https://en.wikipedia.org/wiki/Cellular_respiration