Well, good afternoon, ladies and gentlemen. Let me introduce myself. My name's Colin Robertson. I'm a science consultant and I take care of the chemistry section at the Museum of Nature in London.

The topic of my talk today is photosynthesis. **I've divided my presentation into three parts. First**, I'll define the term, **then** I'll mention the equation for photosynthesis **and finally we'll look in more detail at** two stages of photosynthesis – the light reaction and the dark reaction. **I'd be glad to answer any questions at the end of my talk.**

Let me start by defining the term. Photosynthesis is a process by which chlorophyl-containing organisms, green plants - algae, and some bacteria - capture energy in the form of light and convert it to chemical energy.

Well, this brings me to the second point, which is the equation for photosynthesis.
A quite generalized, unbalanced chemical equation is

$$CO2 + H2A \xrightarrow[\text{energy}]{\text{light}} (CH2) + H2O$$

Let's look at this in more detail.
The formula H2A represents a compound that can be oxidized, that is, from which electrons can be removed. CO2 is carbon dioxide, and CH2 is a generalization for the hydrocarbon fragments incorporated by the growing organism. In the majority of photosynthetic organisms H2A is water, in some photosynthetic bacteria, however, H2A is hydrogen sulfide (H2S).
So much for the equation for photosynthesis. I'll come back to it later.

Let me turn now to the stages of photosynthesis. Photosynthesis consists of two stages: a series of light-dependent reactions and a series of temperature-dependent reactions.
The first step in the light reaction is the absorption of light by pigments of which chlorophyll is the most important. It captures light energy in the violet and red portions of the spectrum and transforms it into chemical energy stored in teh ATP and NADPH2.
Right.

Let's move onto the second stage. In the dark reaction the energy stored in the ATP and NADPH2 is used to reduce carbon dioxide to organic carbon to provide the basis for glucose. This is accomplished through a series of reactions known as the Calvin cycle.
The complete, balanced equation for photosynthesis in which water serves as the electron donor is

$$6\ CO2 + 12\ H2O \rightarrow C6H12O6 + 6\ O2 + 6\ H2O$$

Well, that's all I have to say about the topic.
Let me summarize briefly what I've said.