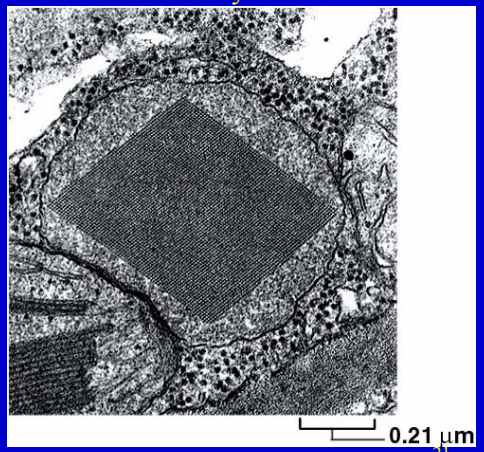
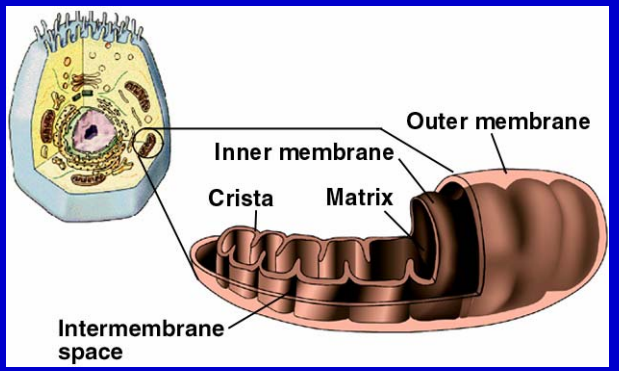
Microbodies: Peroxisomes and Glyoxisomes
vesicles that form through growth and division within the cytoplasm
Glyoxisomes are found in plants - contain enzymes that convert fats into carbohydrates

Peroxisomes - used for removing reactive compounds from the cytoplasm - create H_2O_2 as a byproduct and degrade it with the enzyme catalase



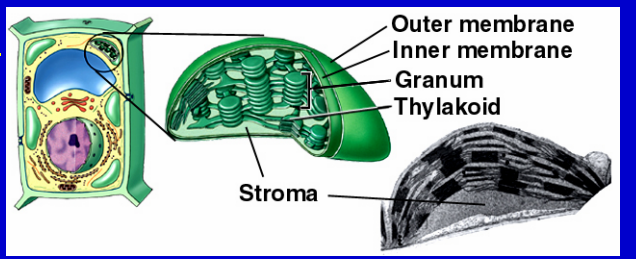
Mitochondria - cellular powerhouses - the site of much of the energy harvest by cells
have double membrane structure
inner membrane folded into inward projections called **cristae**
two spaces within the mitochondrion - the **matrix** and the **intermembrane space**



Mitochondria -
- The site of oxygen consumption within cells
- Have their own DNA that is similar to prokaryotic DNA
- Have their own ribosomes that are similar in construction to prokaryotic ribosomes
- Synthesize many, but not all, of their own proteins
- Mitochondria replicate by binary fission - similar to prokaryotic cell division

Chloroplasts - sites of photosynthesis - in nearly all plants and some protists
trap light energy and convert it into chemical energy
have double membrane structure - inner space is the stroma

Within the **stroma** have a series of stacks of flattened membrane structures called **thylakoids** - the stacks are called **grana**



The light energy trapping molecules of photosynthesis are found in the membranes of the thylakoids.