

**Roll With It
Microbial Metabolism
Part III**

Biosynthesis

- Anabolism
 - Amphibolic
 - Gluconeogenesis
 - Beta oxidation
 - Amination
 - Transamination
 - Deamination
 - Macromolecules

Amphibolic

- Integration of the catabolic and anabolic pathways
- Intermediates serve multiple purposes

Gluconeogenesis

- Pyruvate (intermediate) is converted to glucose
- Occurs when the glucose supply is low

Beta oxidation

- Metabolism of fats into acetyl, which can then enter the TCA cycle as acetyl CoA.

Macromolecules

- Cellular building blocks
 - Monosaccharides
 - Amino acids
 - Fatty acids
 - Nitrogen bases
 - Vitamins

Metabolic Pathways of Energy Use

- Polysaccharide Biosynthesis
- Lipid Biosynthesis
- Amino Acid and Protein Biosynthesis
- Amino Acid and Protein Biosynthesis
- Purine and Pyrimidine Biosynthesis

Amphibolic pathways

- Are metabolic pathways that have both catabolic and anabolic functions.