

# Biogeochemistry

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Geochemistry of the lithosphere and hydrosphere, bio reactive elements, electronic structure of atoms, periodic tables, chemical bonds, Crystals, Ionic substitution, chemical and Isotope geothermometer, chemical precipitation and stability of minerals, acids and bases, salts and their ions, Thermodynamics, mineral stability, clay minerals, carbonate minerals, oxidation-reduction reaction, isotope fractionation, mixing and dilution, rate of chemical processes, chemical weathering, chemical composition of surface water, stable isotope geochemistry, Carbon cycling, other geochemical cycle (-P-N-S), Metabolism and geochemical index in biosystem, Mineral-Microbe-Interaction, Bio-weathering, Biomineralization.

## References

- Schlesinger, W.H., Biogeochemistry: An analysis of Global Change, Academic Press, 1997
- Faure, G., Principle and application of inorganic geochemistry, Prentice Hall, 1991.
- Andrew H. Knoll, A.H., Canfield, D.E., Konhauser, K.O., Fundamentals of Geobiology, 2012.

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