Paleontology Cheatsheet

Fossils

- **Fossilization**: The process by which organic material is replaced by minerals
- **Types of fossils**:
  - **Body fossils**: Remains of an organism's physical body
  - **Trace fossils**: Traces of an organism's activity (e.g. footprints, burrows, bite marks)
- **Taphonomy**: The study of how organisms become fossilized

Geological Time Scale

- **Eras**:
  - Paleozoic
  - Mesozoic
  - Cenozoic
- **Periods**:
  - Paleozoic: Cambrian, Ordovician, Silurian, Devonian, Carboniferous, Permian
  - Mesozoic: Triassic, Jurassic, Cretaceous
  - Cenozoic: Paleogene, Neogene, Quaternary
- **Epochs**:
  - Cenozoic: Paleocene, Eocene, Oligocene, Miocene, Pliocene, Pleistocene, Holocene

Evolution

- **Natural selection**: The process by which organisms better adapted to their environment tend to survive and produce more offspring
- **Phylogeny**: The evolutionary history of a group of organisms
- **Cladistics**: A method of determining the evolutionary relationships between organisms based on shared characteristics
- **Extinction**: The end of a species or group of organisms

Paleobiology

- **Biomechanics**: The study of the mechanical properties of living organisms
- **Paleoecology**: The study of ancient ecosystems and the interactions between organisms and their environment
- **Paleoanthropology**: The study of ancient human life and culture
- **Micropaleontology**: The study of microscopic fossils
- **Macroevolution**: The study of large-scale evolutionary patterns and processes
- **Morphology**: The study of the form and structure of organisms

Resources

- The Paleontological Society
- The Paleontology Portal
- Smithsonian National Museum of Natural History: Paleobiology