9th Grade Earth Science - Chapter 22: The Precambrian Earth

1. **Zircon**	A very stable mineral that commonly occurs in small amounts in granite.
2. **Gravitational Contraction**	The result of meteor bombardment and the subsequent accumulation of meteorite material on Earth causing the size of the Earth to increase.
3. **Granite**	The common crustal rock composed mainly of feldspar, quartz, and mica, which are minerals with low densities.
4. **Differentiation**	The process by which a planet becomes internally zoned. Dense elements sink to the middle while the less dense elements rise to the crust
5. **Precambrian Shield**	Continental core of Archean and Proterozoic rock that may be exposed at the surface or buried by sedimentary rocks.
6. **Canadian Shield**	Name given to the Precambrian shield in North America because so much of it is exposed in Canada
7. **Microcontinents**	Small pieces of continental crust that collided with one another throughout the Proterozoic, forming the cores of the continents
8. **Laurentia**	Ancient continent formed during the Proterozoic that is the core of modern-day North America.
9. **Grenville Orogeny**	The final phase of Proterzoic growth of Laurentia (mountain building event)
10. **Rodinia**	The first supercontinent to form on Earth's surface
11. **Outgassing**	The release of a gas that was dissolved, trapped, frozen or absorbed in some material. IE. volcanic activity.
12. **Cyanobacteria**	Microscopic, photosynthetic prokaryotes that formed stromatolites and changed early Earth's atmosphere by generating oxygen.
13. **Stromatolites**	Large mats and mounds composed of billions of photosynthesizing cyanobacteria that dominated the Proterozoic's shallow oceans
14. **Banded Iron formations**	Unique, shallow marine deposits made up of alternating bands of chert and iron oxides that formed due to locally high oxygen levels produced by stromatolites
15. **Red beds**	Sedimentary rock deposits that contain oxidized iron, providing evidence that free oxygen existed in the atmosphere during the Proterozoic
16. **Primordial Soup**	"soup" formed from the Miller Urey experiment consisting of organic molecules such as formaldehyde and four different amino acids
17. **Amino Acids**	Building blocks of proteins that were likely abundant on Earth during the Archean.
18. **Enzymes**	Needed by RNA and DNA for reproduction in modern organisms
19. **Hydrothermal Vents**	Hot water, deep sea vent that has the energy and nutrients needed for the beginnings of life
20. **Prokaryote**	An organism composed of a single cell, which does not contain a nucleus and is the simplest kind of cell.
21. **Eukaryote**	An organism composed of cells that contain nuclei
22. **Ediacaran fauna**	Fossils of multicellular, varied organisms lacking a mouth, anus, and gut that were widely distributed in the shallow oceans of the late Proterozoic
23. **Snow Ball Earth**	Glaciation was so widespread 850 - 550 million years ago that scientists compare life on Earth to living on a giant snow ball
24. **Miller Urey Experiment**	Combined methane + ammonia + hydrogen + sparks which created simple amino acids (the building blocks of life)
25. **Oceanic Crust**	the relatively thin but dense part of the earth's crust that lies under the ocean basins
26. **Continental Crust**	Thicker crust, made of mostly Granite and has a lower density (is much lighter) than oceanic crust
27. **Craton**	The ancient core of a continent which is tectonically stable
28. **Formation of the Earth**	Condensed out of the "Solar Nebula" roughly 4.6 billion years ago through gravitational attraction