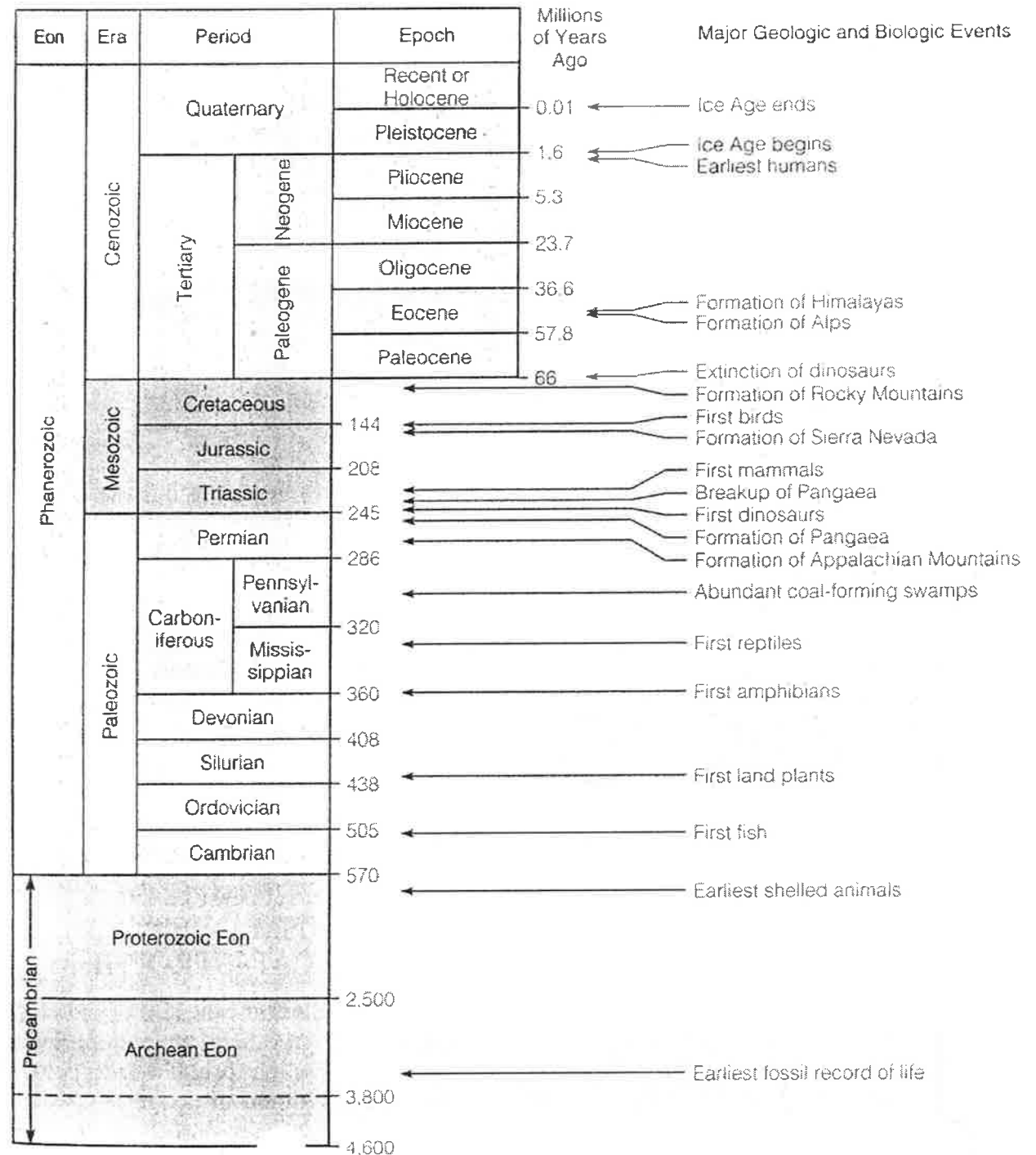


Geology

Geologic Time Scale



Geologic Time Scale

- Cenozoic: 67 Million to Present (about 1% of Geologic Time)
 - Recent: 11,000 to Present
 - Pleistocene: 1.8M to 11,000
 - Pliocene: 6M to 1.8M
 - Miocene: 22.5M to 6M
 - Oligocene: 38M to 22.5M
 - Eocene: 55M to 38M
 - Paleocene: 67M to 55M
- Mesozoic: 230M to 67M (about 4% of Geologic Time)
 - Cretaceous: 141M to 67M
 - Jurassic: 195M to 141M
 - Triassic: 230M to 195M

Geologic Time Scale

- Paleozoic: 600M to 230M (about 8% of Geologic Time)
 - Permian: 280M to 230M
 - Pennsylvanian: 310M to 280M
 - Mississippian: 345M to 310M
 - Devonian: 395M to 345M
 - Silurian: 435M to 395M
 - Ordovician: 500M to 435M
 - Cambrian: 600M to 500M
- Precambrian: 4.6 Billion to 600M (about 87% of Geologic Time)
 - Proterozoic: 2.7B to 600M
 - Archeozoic: 4.6B to 2.7B

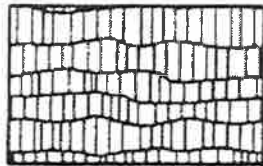
Geologic Time Comparison:

Geologic Time

Recent Time

4.6 Billion Yrs	=	46 years
1.0 Billion Yrs	=	10 years
100 Million Yrs	=	1 year
1 Million Years	=	3.65 days
100 Years	=	0.876 minutes

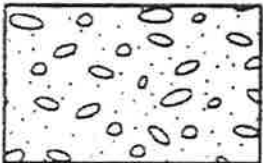
Explanation of symbols:



basalt flow



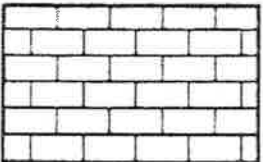
breccia



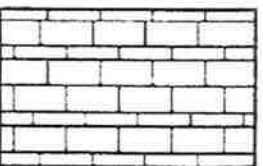
conglomerate



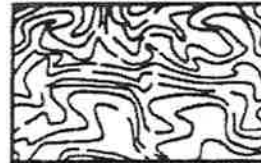
granite



limestone



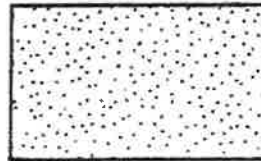
limestone



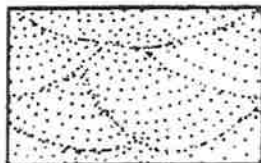
marble



coarse-grained sandstone



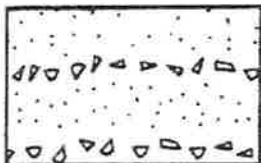
fine-grained sandstone



eolian sandstone



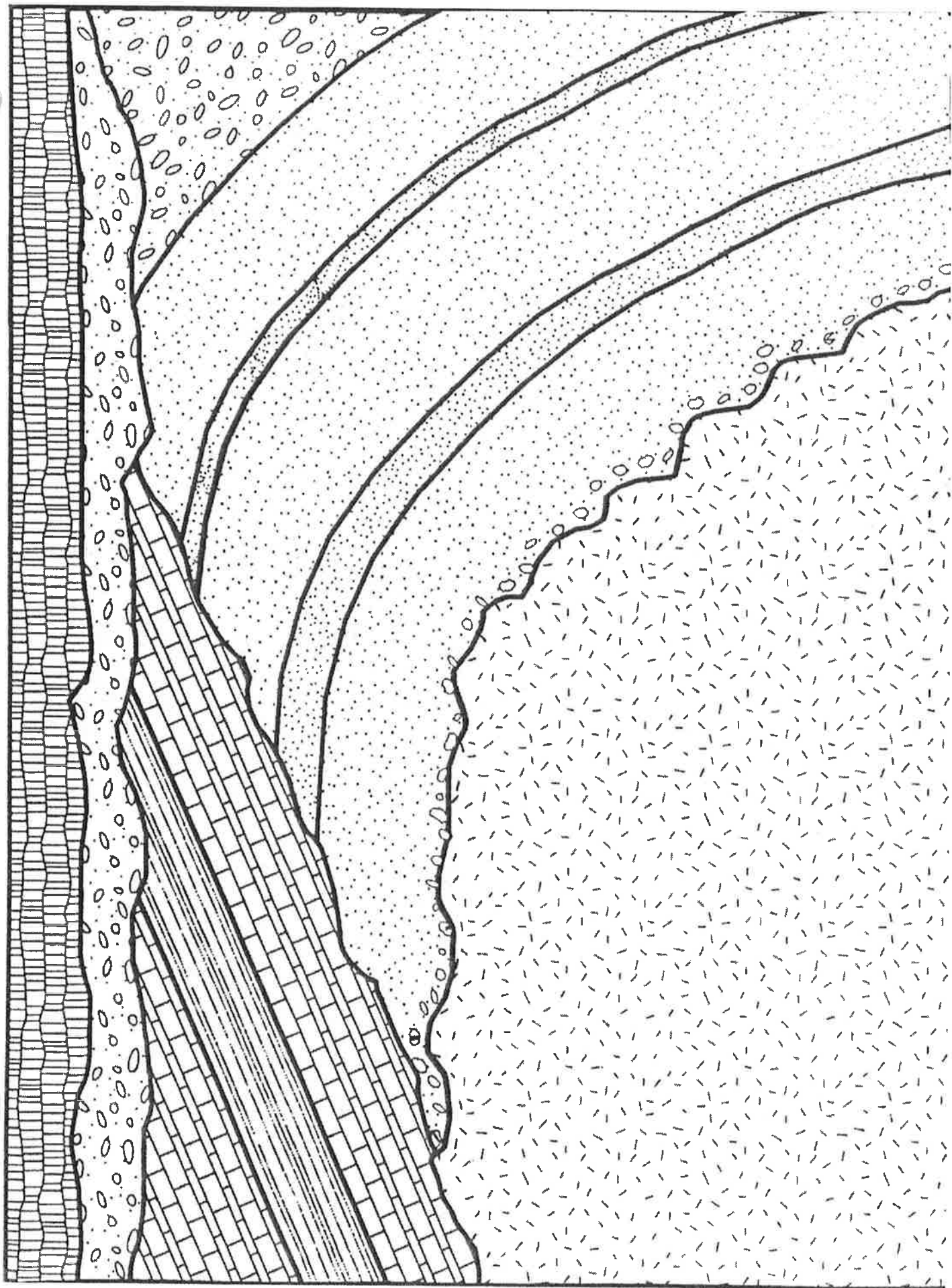
shale



tuff



welded tuff

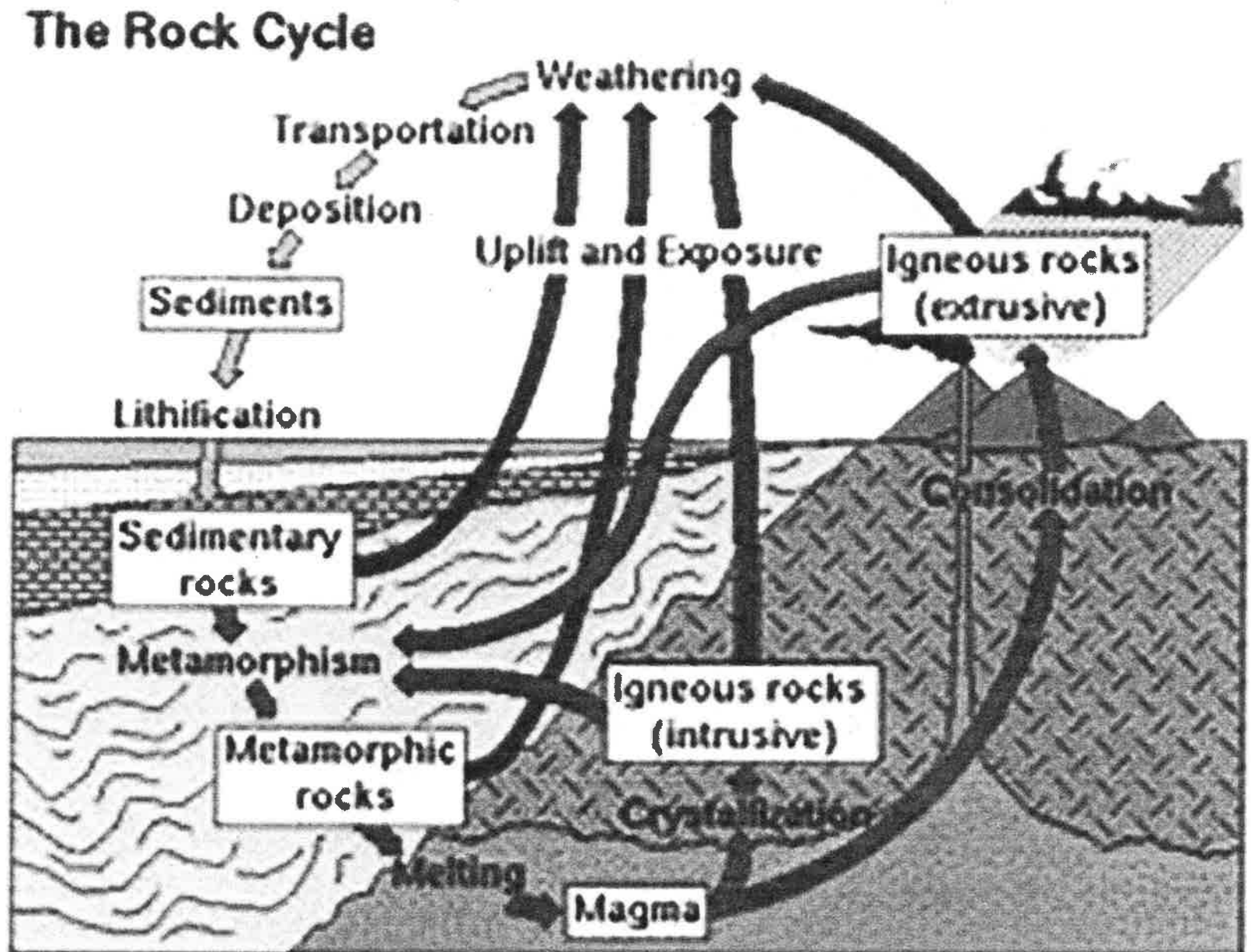


Periodic Table of Elements

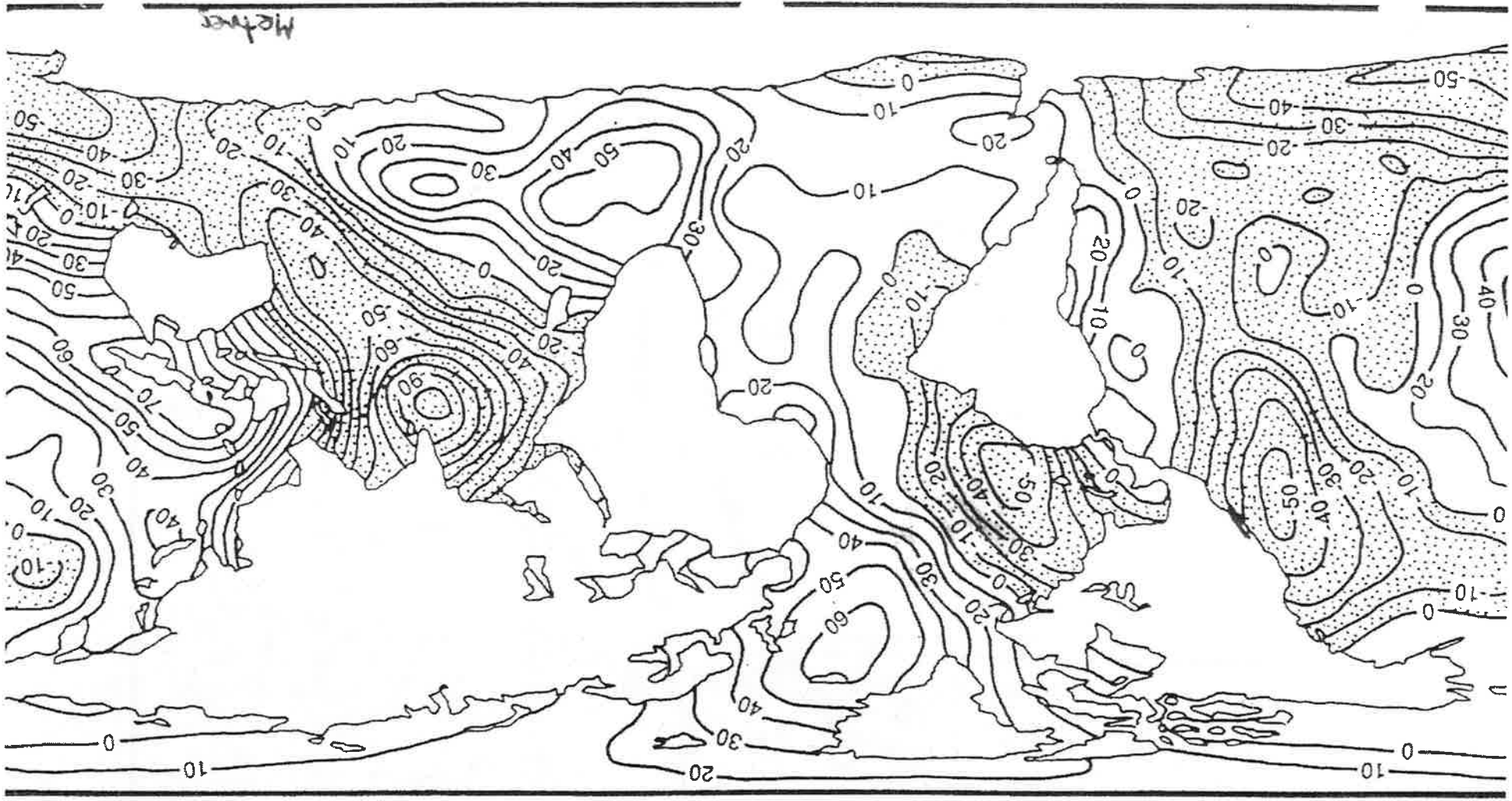
1 H																	2 He
3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
55 Cs	56 Ba	57 La	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
87 Fr	88 Ra	89 Ac	104 Unq	105 Unp	106 Unh	107 Uns	108 Uno	109 Une	110 Unn								

58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu
90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr

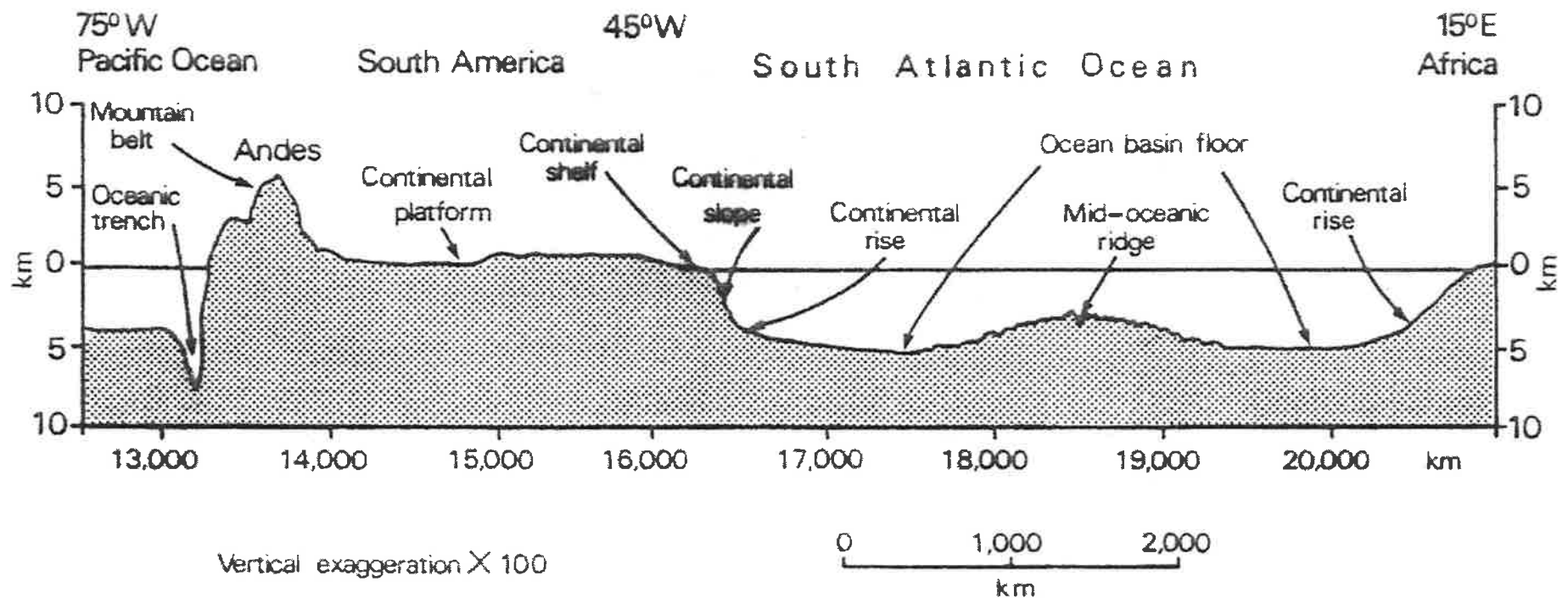
Rock Cycle



Present Sea Surface



Main Topographic Features



Minerals

- Quartz
- Cryptocrystalline Silicates (Jasper, Chert, Chalcedony, Agate, Petrified Wood)
- Hematite
- Limonite
- Graphite
- Gypsum

Igneous Rocks - Intrusive

- Granitic Rocks: Granite, Diorite, Quartz Diorite, Granodiorite, Monzonite, and Quartz Monzonite
- Gabbroic Rocks: Gabbro and Diabase

Igneous Rocks - Extrusive

- Basalt
- Andesite/Rhyolite/Dacite
- Pumice
- Obsidian

Sedimentary Rocks

- Sandstone
- Shale
- Limestone
- Chalk

Metamorphic Rocks

- Slate
- Quartzite
- Gneiss
- Schist
- Soapstone/Steatite
- Talc Schist/Chlorite Schist
- Marble
- Metavolcanics