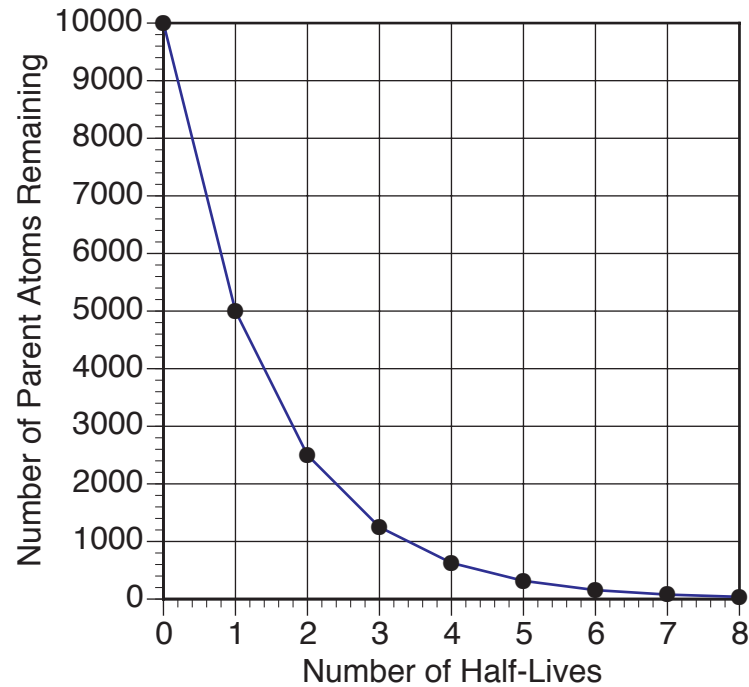


### Laboratory Key #11 - Geologic Time

	Exercise 1	Exercise 2
youngest -->	L (intrusion)	youngest --> K (intrusion)
	J	L (intrusion)
	I	J (Granite)
	unconformity	Fault N
	tilt	I
	H	H
	G	G
	F	unconformity
	M (fault)	F
	E	Fault M
	D	E
	C	D
	unconformity	C
	K (intrusion)	B
	B	oldest---> A
oldest--->	A	

1.	0 half lives	10,000 atoms
	1 half lives	5,000 atoms
	2 half lives	2,500 atoms
	3 half lives	1,250 atoms
	4 half lives	625 atoms
	5 half lives	313 atoms
	6 half lives	156 atoms
	7 half lives	78 atoms
	8 half lives	39 atoms



2. 0.4 half lives;  $0.4 \text{ half lives} \times 5730 \text{ years} = 2292 \text{ years}$
3. 1.4 half lives;  $1.4 \text{ half lives} \times 4.5 \text{ billion years} = 6.3 \text{ billion years}$
4. No, with its short half life, there would be no carbon-14 left to measure
5. No, with its long half live virtually no uranium 238 would decay to lead
6. 1.3 Half Lives or 927 Ma
7. (b) Proterozoic
8. 0.2 to 0.3 Half Lives or 260 to 390 Ma
9. (c) Paleozoic
10. 0.2 Half Lives or 140 Ma
11. (d) Mesozoic
12. Basalt L and Layers J and I..Mesozoic

Layers C to H....Paleozoic

Granite K and Layers A and B.Proterozoic