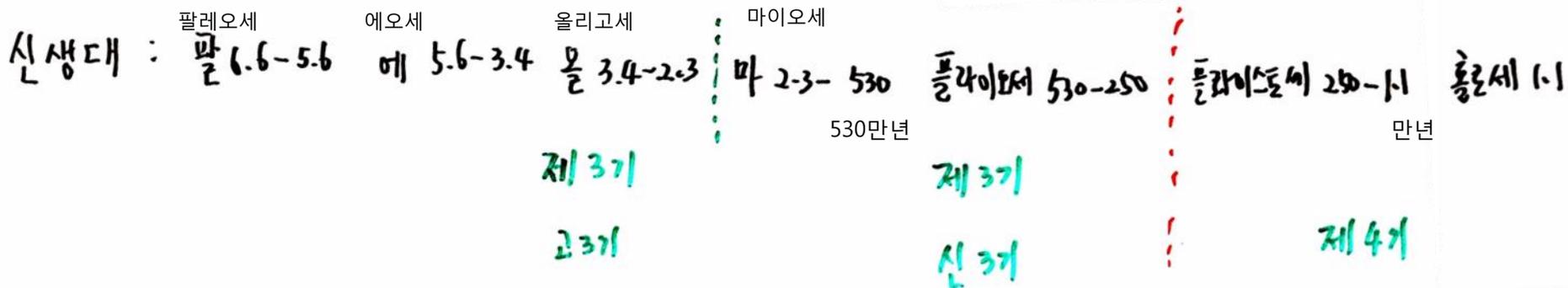
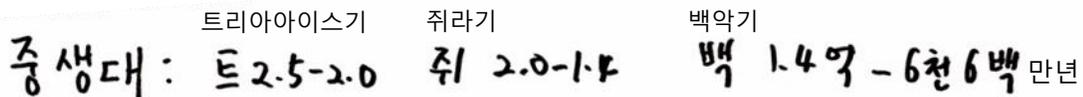
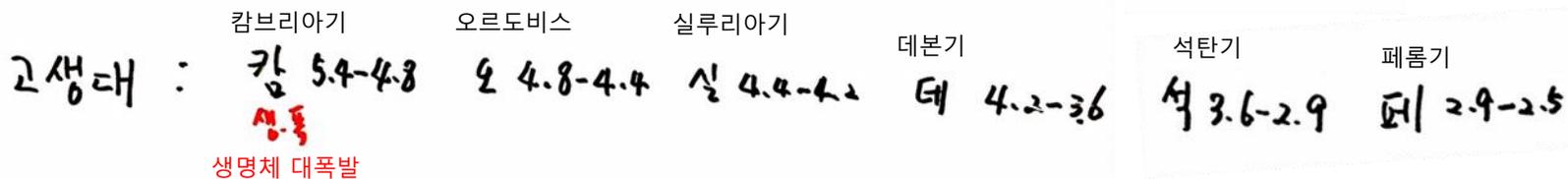
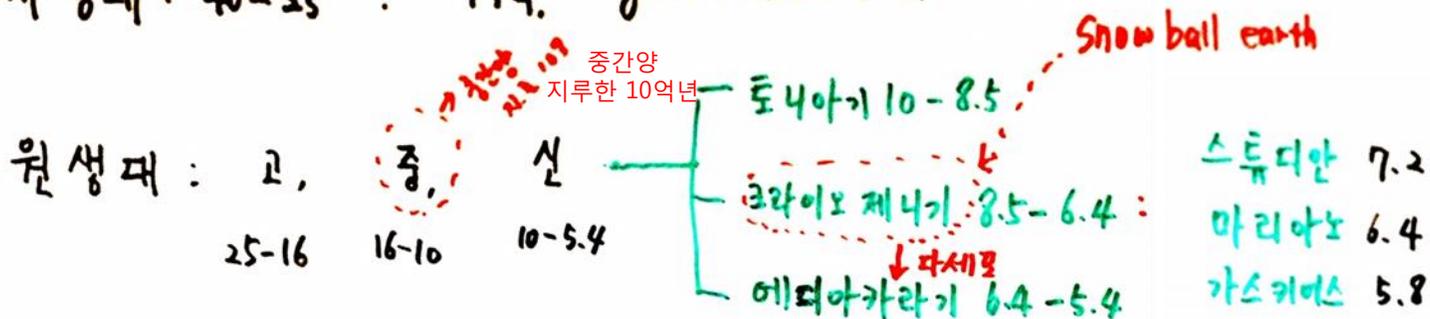


시즌5 제46회 과학리딩모임

2020-04-26

명왕대: 45-40 억년

시생대: 40-25 : TTG. green stone belt



지구 45억년

로버트 M 헤이즌
헤이즌

1. chondrite → dust, SiO₂, Al₂O₃
45.6 억년 dust Al₂O₃

2. 45.6 - 45.5 differentiation

3. 45.5 - 40.0 igneous rock
E. of Evolution 바다 지구

4. 40 - 35 granite formation : 지구, 바다.
→ 현무암, 섬암, 화강암.

5. 30 ↑ plate tectonics 판구조론 : 지각 → 대륙 해양 → 10%

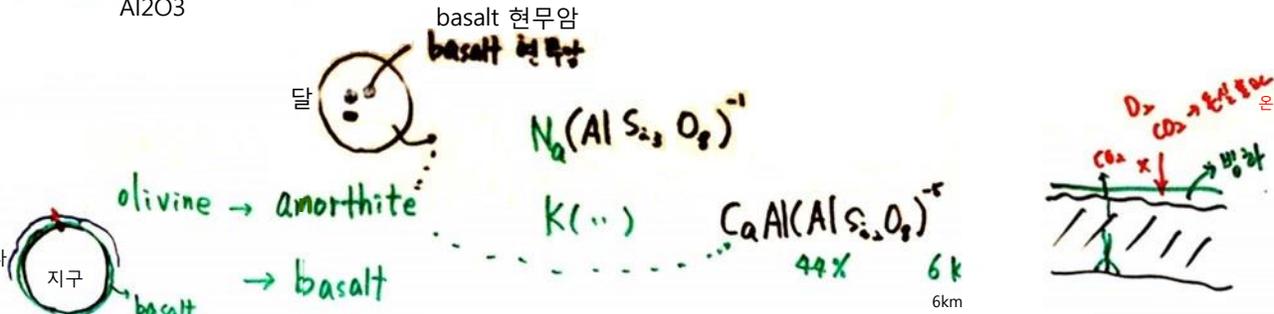
6. 35 - 29 anoxic biological world : 원핵세포 :

7. 25 - 19 great oxidation event :
1차 산소 혁명
지각 60, 운석 250, 화성 500,
O₂ ↑

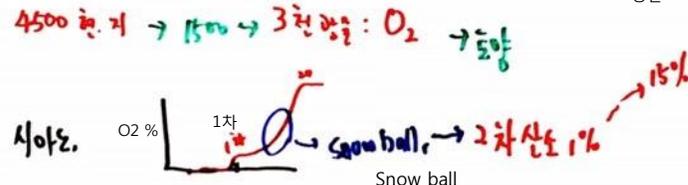
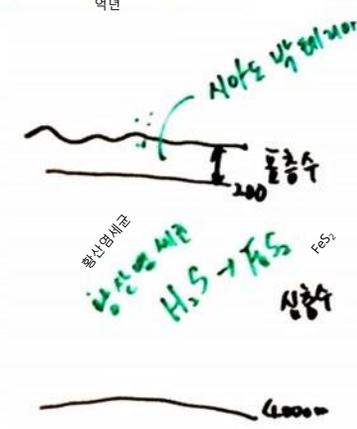
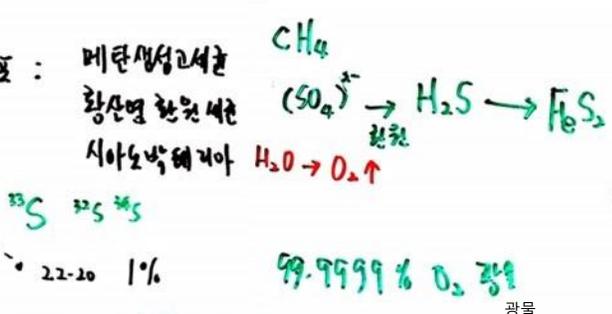
8. 19 - 9 intermediate ocean

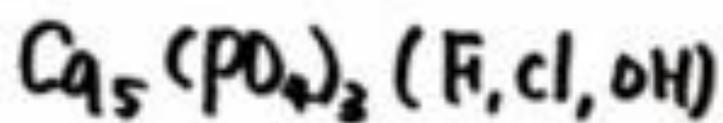
9. 8 - 6 snow ball earth : PO₄ 해양결빙, 시아노.

10. 5.4 → 2.3 신



10. 현생대 : 5.4 → 현재
biomineralization 생물체의 광물
blow weathering : 도양
Ca₅(PO₄)₃ (F, Cl, OH)
방해석 CaCO₃
생물의 광물 규조류, 방산층 SiO₂
테 분기 : 극류하천 : 황적토





10. 현생대 : 5.4 → 현재

biomineralization

방해석 CaCO_3
생물의 광물

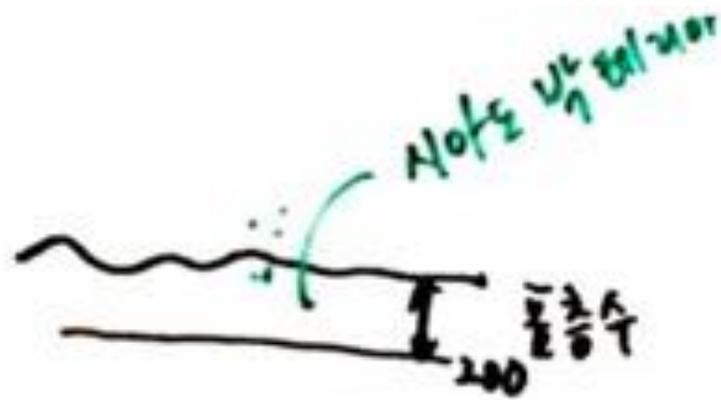

규조류, 방산층 SiO_2

bioweathering : 토양

테분기 : 곡류하천 : 홍적토



중간양



황산염세균
남산염세균
H₂S → FeS₂ FeS
심층수

← 4000 →

