

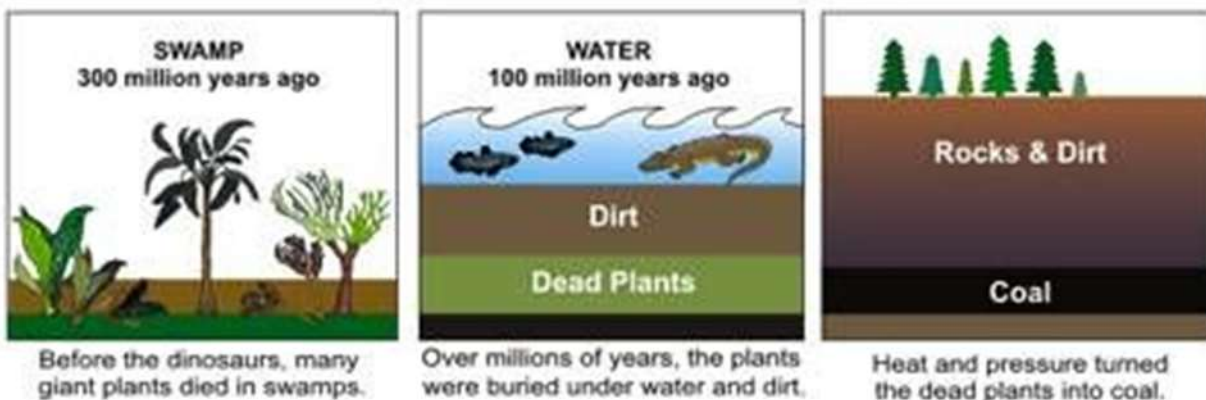
AIM: Nonrenewable Resource #1 : COAL

Definition:



- carbon-rich, organic rock formed by compression of plant material (and/or additional heat & pressure)
- mostly formed during Carboniferous Period (~350-300 mya)

HOW COAL WAS FORMED



Stages of Coal Formation:

Stage	Description / Associated Info	heat and pressure involved in formation process	carbon content	heat value	moisture content	sulfur content
1 peat	partially decomposed plant matter (NOT COAL!)	heat and pressure increases	carbon content increases	heat value increases	moisture content decreases	sulfur decreases
2 lignite	brown coal					
3 bituminous coal	soft coal					most sulfur
4 anthracite coal	hard coal					sulfur decreases

Coal Extraction:

1. surface mining (strip and open-pit)
2. subsurface mining
3. mountaintop removal

Coal Reserves / Use:

1. Most Reserves: United States Russia Australia



2. Largest Users: China (50%!!) India United States

Pros and Cons of Using Coal:

PROS	CONS
1 abundant	1. *DIRTY TO BURN* – worst air pollution of all fossil fuels produces: CO, CO ₂ , SO ₂ , NO _x , mercury, particulates (dust, soot, ash)
2 high energy yield	2. negative environmental impact (high land use = ecosystem disruption)
3 cheap	3. dangerous: miners / human health