

## Examples of Evolution

## Natural Selection at Work

- The environment dictates the direction and amount of evolutionary change

- Polar bear's white fur

### Factor's in Natural Selection

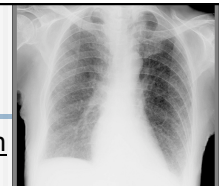
1. All pop have genetic variation
2. Environment presents challenges to successful reproduction
  - Food, weather, etc

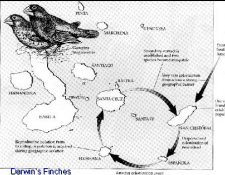
3. Individuals tend to produce more offspring than the environment can support
  - Competition
4. Ind that can better cope with challenges of the environment will produce and leave more offspring

## Examples of Natural Selection

### Tuberculosis (TB)

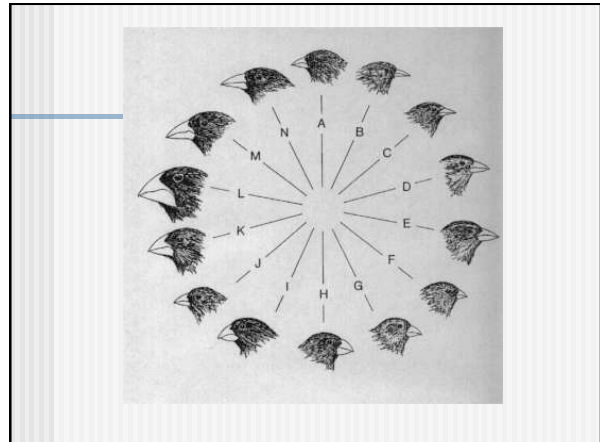
- Lung disease
- 50s two anitbiotics became available and saved lives
- 80s new strains appeared, resistant to anitbiotics
- Dr's found a SINGLE BASE change in the new TB strain





**Evolution in Darwin's Finches**

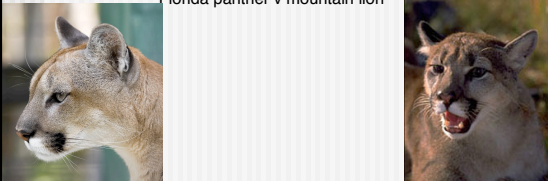
- Collected 31 specimens of finches from the Galapagos
  - 9 distinct species
- Suggest that they evolved from one ancestral species
- Found that beak size would vary during wet and dry seasons




**Formation of New Species**

Forming subspecies

- When pop of the same species that differ genetically b/c of adaptations to differing living conditions
  - Florida panther v mountain lion



**Mountain lion range, sightings**



Sources: San Diego Zoo, Phoenix Zoo, www.mountainlion.org, Eastern Cougar Network, state, fish and wildlife offices. Reported by Melanie Eversley, graphic by Bob Lord, USA TODAY

**Maintaining New species**

- What keeps them separate?
- When become different enough, can no longer interbreed
  - Geographical
  - Physical