Medicine:
- **Germ Theory of Disease:**
  - **Louis Pasteur** developed the *germ theory of disease*
  - He was studying the fermentation of alcohol when he discovered bacteria
    - Learned that heat killed bacteria
  - He developed the *process of pasteurization* to kill germs in liquids
    - Concluded that bacteria caused diseases
- A surgeon called John Lister read Louis's work
  - He thought this might be the reason half his patients died from infections (LAAA WALLAH)
    - He ordered that his *hospital rooms be cleaned*
    - Insisted on *washing wounds with antiseptics* (sanitizer)
- Cities built plumbing and sewer systems to stop spread of disease
- Medical researchers *developed vaccines* for diseases

Science:
- **Charles Darwin:**
  - Charles darwin was an English naturalist who caused controversy
  - **Special creation:** The idea that every plant & animal had been created by God at the beginning of the world
    - He questioned this idea by asking how to explain the large variety of plants and animals on Earth
  - He developed the *theory of evolution* to answer his question
    - **Theory of Evolution:** The idea that all forms of life have evolved from earlier life forms through natural selection
  - He wrote a book where he talked about the idea of *natural-selection*
    - The idea that if the population grows faster than the food supply, we must compete for it
    - The ones who survived are the best-fitted and adapted to the environment
      - They breed and have kids, and over many generations the species changes and evolves
  - **Gregor Mendel:** discovered there is a pattern to the way genes are inherited in genetics
  - **John Dalton:**
    - Thought all matter is made of *atoms*