Uranus

William Herschel - 1781
Visible to the naked eye (barely)
Visited by Voyager II - 1986
Magnetic field is tilted and off axis

Rings

Uranus’ Satellites - 27
Small, icy worlds

Miranda - The Fractured Moon

Huge Cliff!
Strange patterns
Discoloration
Why?

Neptune 🌍
1846 - An Englishman, a Frenchman and a German walked into a bar and...

John Couch Adams  Urbain Le Verrier  Johann Galle

Similar to Uranus
Composition
Mass, radius
Cloud structures
Magnetic fields
More active atmosphere
Great Dark Spot
Analogous to the Great Red Spot

Rings
Ring Arcs
Neptune’s Moons

13 known satellites
Small icy worlds
Heavily cratered

Triton - The Geyser World

Geysers erupt gas (nitrogen and methane) and methane ice
Triton’s unusual orbit - tidal heated
Kuiper Belt

Pluto

Discovered in 1930 by Clyde Tombaugh

New Horizons
Launch January 2006
Arrival July 2015
Are these planets?

Largest known trans-Neptunian objects (TNOs)

- Eris
- Pluto
- Makemake
- Haumea
- Sedna
- 2007 OR10
- Quaoar
- Orcus