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| Topic | Notes |
| Timeline of the Big Bang | * Primordial Atom/ primeval atom or cosmic egg * Heat and gravity being created * Electrons, protons and neutrons being created * No matter formed 🡪 hydrogen fusion 🡪 first stars & galaxies form * Stars dies 🡪 planets form * Universe is expanding * Future projections:   + Andromeda galaxy (blue shift) – eventually collide with our galaxy   + Stars burn out ~100 trillion years   + Cool down   + Gravity crushes it back to cosmic egg   + Dark energy will rip everything apart |
| Lemaitre | * Expanding universe   + Cosmic egg 🡪 expanding out   + Thought universe had no sides/never ended   + No proof – due to miscalculations * Priest   + Thought the Catholic Church would reject his ideas |
| Hubble | * Thought universe was expanding * Evidence   + Hubble constant- formula for rate at which the universe expands   + Every other star/galaxy showing red shifts   + Andromeda galaxy is the only blue shift |
| Wilson/Penzias  COBE- Smoot  Background Radiation | * Worked with NASA on a research project called ECHO   + Create longer transmission of radio waves   + Found unaccounted radio waves   + Found radiation no matter where they looked * Used COBE satellite to make the map of early universe * Really looking back in time at the early universe since the background radiation is still traveling towards us * Generally speaking within the scientific community this research is accepted |