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| Topic | Notes |
| Timeline of the Big Bang | * Beginning 10 billion degrees Fahrenheit * 13.8 billion years ago – age of universe * Started as a cosmic egg/primordial atom/primeval atom – hot/dense matter * Inflation stage – expanding, no stars * Gravity, hydrogen fusion 🡪 get heavier elements, stars/galaxies form * Future:   + Andromeda Galaxy collides with our galaxy   + Stars burn out in 100 trillion years   + Universe can     - Gets too cold     - Keep expanding     - Gravity can cause it to collapse |
| Lemaitre | * Theory of expansion   + Hubble’s Law   + Relationship between speed and light   + Did not calculate universe expanding correctly   + Not fully accepted at time due to incorrect calculations   + Believed in cosmic egg 🡪 expanding out   + Universe had no sides, never ending |
| Hubble | * Universe is expanding * Identified distance of galaxies versus speed they were moving   + Created a formula- it finds the rate at which the universe expands * Red shift |
| Wilson/Penzias  COBE- Smoot  Background Radiation | * NASA project called ECHO- create longer transmissions of radio waves * Accidentally find background radiation * Used COBE to create the background radiation map * The map created is really looking back in time since it takes so to reach us (looking at early universe) * Helps show universe is cooling off |