



# Models Of The Universe


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Objective: Learn how our universe is changing.



# Expanding Universe


- All galaxies are moving away from each other. Why?



# Theory of Expanding Universe

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- Big Bang: 12-15 billion years ago, a fireball exploded causing space, matter and energy to spread apart in all directions. Then the energy caused the universe to expand.



# Theory of Expanding Universe

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- Galaxies, stars, and planets: formed from the collision and condensation of H & He into clouds.
- Red Shift: Light from other galaxies shifts towards red; evidence of galaxy moving away from us.



# Theory of Expanding Universe

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- Galaxies farthest from Earth show a larger red shift and are moving away faster.





# Other Theories

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- Big Crunch: gravity will overcome expanding energy and all matter will move towards each other.
- Oscillating: expanding galaxies will slow down and collide, creating a new big bang.
- Steady State: new galaxies form to fill empty spaces left from collapsed galaxies.
- No evidence supports these theories.