Solar System Notes

Models of the Solar System

* **Earth-centered**
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ model
  + First model, held as true for a very long time; Earth is center of universe and other planets revolve around it
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ proposed it
  + Stars, moon, sun appear to move as the day goes on
* **Sun-centered**
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ model
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ proposed and presented a model
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ provided evidence for it when he discovered moons around Jupiter and phases of Venus
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ expanded on the idea and proved that planets move in ellipses, not perfect circles
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ also discovered that planets travel at different speeds (closer to the sun travel faster than planets further from the sun; outer planets take longer to orbit than inner planets
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Mercury, Venus, Earth, Mars
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Jupiter, Saturn, Uranus, Neptune (Pluto considered an outer dwarf planet)

Formation of the Solar System

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_—big ball of gas
* Left over from exploded stars
* Starts as a large ball of slowly spinning \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes it to clump in the center
* As it contracts, it spins \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (just like an ice skater)
* As it spins faster, it \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* As it grows more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the center, it \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ up
* Once it reaches about 10 million degrees, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ starts, forming a star at the center
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is just when small atoms hit each other fast enough and hard enough to stick, releasing lots of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Remaining mass clumped together to form planets, asteroids, and comets as they cooled
* Closest planets are made of the heaviest elements (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Farther planets are made of lighter elements (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Farthest objects are mostly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Comets

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_— dust and rock mixed with frozen water
  + Very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ orbits
  + When they come close to sun, ice \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and forms a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Tail is pushed directly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the sun

Meteors

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_—small pieces of rock from old comets
  + When they enter the atmosphere, they start to glow and burn
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_—meteoroids that burn up completely
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_—meteoroids that reach the surface

Asteroids

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_—rocks similar to the material in the planets
  + Not large enough to be made into a ball due to its own gravity, like a planet
* Most exist between Mars and Jupiter, in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_