Objects in Space

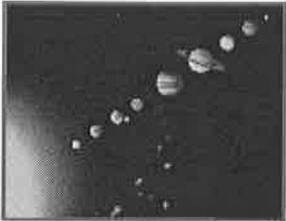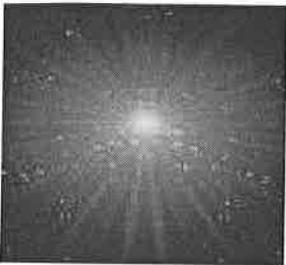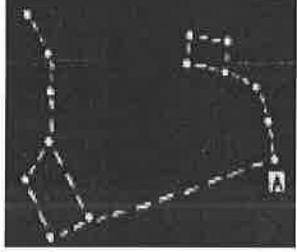|		
Inner Planets		• In order: Mercury, Venus, Earth, Mars • Made of rock and metal • Warm • Small • no rings • few moons
Outer Planets		• In Order: Jupiter, Saturn, Uranus, Neptune. • Made of gas (mostly) — Might have rocky cores • Cold • large • All have rings • Many moons
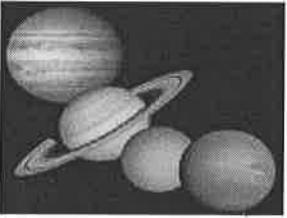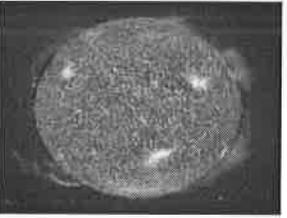
Sun		• Big ball of gas*(mostly Hydrogen)
		  *actual!
		• Energy from nuclear fusion
		• Solar flares (giant explosions)
		  Create our northern lights

Solar System		The sun and everything that orbits around it.
Stars		• Big ^{hot} spheres of gas* (mostly Hydrogen) • Binary stars are pairs of stars that orbit each other • Sizes vary → dwarf — supergiants • Colors Vary → Red, Orange, yellow, white, blue
Milky Way Galaxy		• Our galaxy • spiral galaxy • ≈100,000 light years across
Outer Galaxies		• Millions or billions of stars held together by gravity. • [3] Shapes: [1] Spiral, [2] elliptical (oval), [3] Irregular (no shape) • Andromeda is the closest galaxy to ours

Supernova		• The dying explosion of a large star • Very bright (as bright as 10 billion suns) • Usually shine brightly for 1 or 2 months .
Nebula		• Cloud of dust and "frozen gas" • May evolve into solar systems. • Produced by the Big Bang and by Supernova explosions
Black Holes		Black area around • Very dense points of matter formed by a compressed "dead" star. • Gravity is so strong that light cannot escape. • Cannot be seen, so scientists look for the effects of their gravity.
Comets		• "Dirty snowballs" —made of dust and ice • The tail is caused by dust and ice trailing behind and getting melted and pushed away by the sun. • Tail points away from sun

Meteors, meteoroids, meteorites		• All are space rocks • Asteroids are outside the atmosphere • Meteors are "shooting stars," rock burning up due to friction in the atmosphere. • Meteorite: a meteor that survives and lands on Earth.
Asteroids		• Bigger than meteors, Smaller than planets • Asteroid Belt: Contains most asteroids. Found between orbits of Mars + Jupiter.
Constellations		• A group of stars that can be connected, "dot-to-dot" to create an image. • Circumpolar: A constellation that we can see all year long. • Orion is <u>not</u> circumpolar. • Big Dipper <u>is</u> circumpolar.