

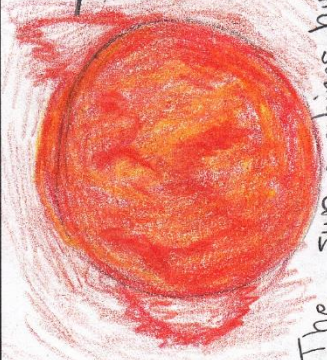







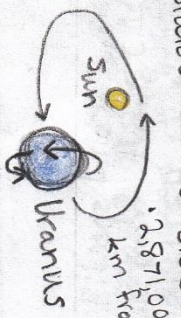
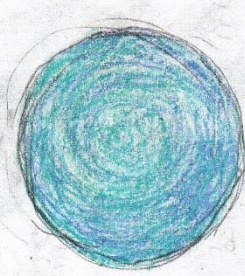
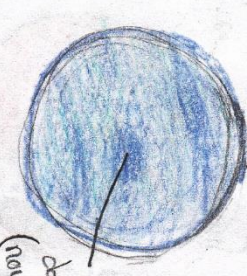
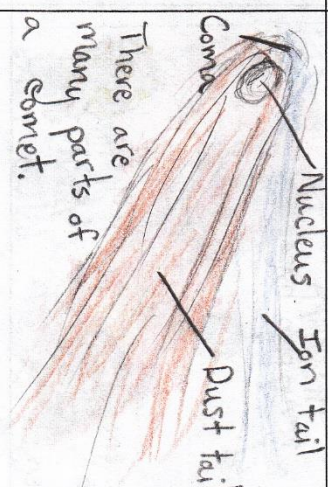


Name of Object	Description -structure, appearance, distinguishing characteristics-	Position and Movement Details -location, orbit, day length- (diagrams are useful)	Representative Drawing of the Object (add captions which point out important features)
Solar System	<ol style="list-style-type: none"> Made up of 9 planets that orbit the sun. The sun consists of almost all of the mass in the solar system. The sun has enough mass to hold planets in their orbits. Planets condensed out of the same disk of material as the sun. Sun: Creates interplanetary gas (a flow of gas and charged particles - plasma). Also called solar wind. 	<ul style="list-style-type: none"> Orbits the center of the Milky Way galaxy Planets orbit in a counter-clockwise direction when looked down upon from the sun's north pole. 	 <p>There are 8 planets that orbit the sun in the solar system.</p>
Sun/Star	<ol style="list-style-type: none"> Formed in the core of a contracting nebula Must reach about 10 million degrees Celsius for nuclear fission Clusters of stars usually form together 74% hydrogen, 24% helium, 2% oxygen, carbon, iron, & neon Sun contains 99.86% of the solar system's mass 	<ul style="list-style-type: none"> Revolves around the galaxy Average velocity of revolving solar system: 828,000 km/hr Revolution around galaxy: 230,000,000 years 	 <p>Solar Flare</p> <p>The sun combines hydrogen nuclei into helium, creating massive amounts of energy.</p>
Mercury	<ol style="list-style-type: none"> Lots of cliffs and craters No true atmosphere (low gravitational pull & high daytime temperatures). 425°C during the day, -170°C at night Mariner 10 photographed it in 1974-1975 Cliffs caused by shrinking (core was still hot, caused contraction) 	<ul style="list-style-type: none"> Average orbital speed: 48 km/s Closest planet to sun Second smallest planet Has no moons Rotation: 59 days (earth days) Revolution: .24 years 58,000,000 km from sun 	 <p>Craters & cliffs</p> <p>Mercury is a small, rocky planet.</p>

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Venus	1. Size and mass similar to Earth's 2. Greenhouse effect causes temperatures of 450° to 475°C 3. 1 inch atmosphere made mostly of carbon dioxide. 4. Sulfuric acid droplets in atmosphere make clouds yellowish 5. Surface has craters, faultlike cracks, and volcanoes. 6. No moons	<ul style="list-style-type: none"> • Average orbital speed: 35 km/s • 2nd planet from the sun • Rotation: 243 days • Revolution: 225 years • Rotates east to west (opposite of most planets) • 108,000,000 km from sun 	 <p>clouds</p> <p>Volcano</p> <p>Venus's rocky surface is obscured by yellowish clouds</p>
Earth	1. Atmosphere protects life + surface is rocky where there's water 2. Surface temps. allow water to exist as gas, liquid + solid 3. Only planet where life is known to exist. 4. Has 1 large moon 5. Atmosphere protects from sun's radiation	<ul style="list-style-type: none"> • Average orbital speed: 30 km/s • 3rd planet from sun • Rotation: 1 day • Revolution: 1 year • 150,000,000 km from sun 	 <p>clouds</p> <p>Moon</p> <p>More than 70% of Earth's surface is covered by water.</p>
Mars	1. Called the red planet (iron oxide or rust is in the soil) 2. Polar ice caps + changes in coloring visible from Earth 3. Largest volcano in solar system - Olympus Mons. 4. Many features similar to earth - rift valleys, 5. Thin atmosphere (mostly carbon dioxide) allows temperatures from -125°C to 35°C.	<ul style="list-style-type: none"> • Average orbital speed: 24 km/s • 4th planet from sun • Rotation: 1.03 days • Revolution: 1.9 years • 228,000,000 km from sun 	 <p>Phobos</p> <p>Deimos</p> <p>Two small, irregular moons orbit Mars. Mars is often called the red planet.</p>

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Asteroids	<ol style="list-style-type: none"> Mainly made of left over materials from formation of inner solar system. "Minor planets" - solar system bodies smaller than moons (pluto) Most orbit the sun between Mars + Jupiter (asteroid belt) If it hits the ground (doesn't burn in atmosphere) it is called a meteorite. Rarely strike earth Can be very large (miles across) or very small 	<ul style="list-style-type: none"> Orbit the sun in the asteroid belt (between Mars + Jupiter) 	 <p>Craters</p> <p>Asteroids are rocky and have lots of craters. When they hit a planet's atmosphere, they may burn up.</p>
Jupiter	<ol style="list-style-type: none"> Biggest planet in the solar system Thick atmosphere - mainly hydrogen and helium with solid core Many colorful bands and swirls in the clouds Great Red Spot - Ongoing storm, many times bigger than earth 17 moons - 4 largest are Io, Ganymede, Europa, and Callisto. 	<ul style="list-style-type: none"> Average orbital speed: 13 km/s 5th planet from sun Rotation: 41 days Revolution: 12 years 778,000,000 km from sun 	 <p>Great Red Spot</p> <p>Jupiter has many ongoing swirls and storms in its clouds.</p>
Saturn	<ol style="list-style-type: none"> 2nd largest planet (flat disk of rings largest diameter) Thick atmosphere - mainly made of hydrogen and helium (solid core) Also has clouds and storms, but they're less dramatic Hundreds of rings of orbiting chunks of ice and rock At least 31 moons - largest is Titan 	<ul style="list-style-type: none"> Average orbital speed: 9.7 km/s 6th planet from sun Rotation: 43 days Revolution: 29 years 1,427,000,000 km from sun 	 <p>Rings</p> <p>Saturn has hundreds of rings from orbiting chunks of rock and ice.</p>

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Uranus (Uor uh nus)	<ul style="list-style-type: none"> 1. Large, gaseous planet with dark thin rings. 2. Atmosphere is hydrogen, helium, and methane (solid core) 3. At least 21 moons + 11 rings 4. Is smaller than some gas giants 5. 80% of its mass is a fluid mix of water, methane, + ammonia ices 6. Rotation on side may be due to a collision with a planet-sized body. 	<ul style="list-style-type: none"> • Average orbital speed: 6.8 km/s • 7th planet from sun • Rotation: 72 days • Revolution: 84 years • Rotates on its side  <ul style="list-style-type: none"> • Average orbital speed: 54 km/s • 8th planet from sun • Rotation: 67 days • Revolution: 165 years • Size and composition similar to Uranus • 4,497,000,000 km from sun 	 <p>Methane gives this planet its bluish-green color.</p>
Neptune	<ul style="list-style-type: none"> • 13 known moons 1. Not visible to naked eye. Position determined with math calculations 2. Atmosphere made of hydrogen, helium, + some methane (solid core) 3. Large storms and fast winds in solar system. 4. "Great Dark Spot" - Storm last from 1989 to about 1994 5. Ice Giant - Made of layers of hydrogen, helium, and methane gases that enclose water, ammonia, + methane ice. 	<ul style="list-style-type: none"> • Orbit sun in ellipses • Most believed to inhabit Oort Cloud, beyond the orbit of Pluto • Nuclei measure 10 miles or less across • Some tails reach 100 million miles long. 	 <p>Great dark spot (now gone)</p> <p>Methane gives this planet its vibrant blue color.</p>
Comet	<ul style="list-style-type: none"> 1. Made of dust + rock particles mixed with frozen water, methane + ammonia. 2. Nucleus mostly ice + dust. 3. As comet nears sun, ice on surface becomes a gas (coma) 4. Radiation from sun pushed dust particles away from coma 5. Sun converts some of the comet's gases into ions, forming ion tail. Tails shaped by solar wind point away from sun. 		<p>There are many parts of a comet.</p> <p>Nucleus</p> <p>Ion tail</p> <p>Dust tail</p>