



# Small Astronomical Bodies

Science Study Guide Version 3.1

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Planet	Moon(s)	Details
Mars	<u>Phobos</u> and <u>Deimos</u>	only two moons of Mars; named for the Roman gods of fear and panic
Jupiter	<u>Ganymede</u> , <u>Europa</u> , <u>Callisto</u> , and <u>Io</u>	collectively the <b>Galilean moons</b> ; the four largest moons of Jupiter; discovered independently by both <b>Galileo Galilei</b> and <b>Simon Marius</b> ; Ganymede is the largest moon in the solar system; Io is the most geologically active object in the solar system
Saturn	<u>Titan</u>	second-largest moon in the solar system; <b>nitrogen-based</b> atmosphere; <b>methane</b> rivers and lakes; discovered by Christian <b>Huygens</b> ; visited by <b>Huygens</b> probe, part of the <b>Cassini-Huygens</b> mission; contains the <b>Kraken Mare</b>
	<u>Enceladus</u>	<b>cryovolcanic</b> and heavily cratered; sixth-largest moon of Saturn
	<u>shepherd</u> moons	satellites that help contain planetary rings through their gravitational pull; Saturn's shepherd moons include <b>Prometheus</b> near the F ring and <b>Pan</b> near the Encke Gap
Uranus	<u>Titania</u> , <u>Oberon</u> , <u>Cordelia</u> , and <u>Miranda</u>	named for characters from <b>Shakespeare</b> plays
Neptune	<u>Triton</u>	has a <b>retrograde orbit</b> ; largely covered in <b>frozen nitrogen</b> ; has a "cantaloupe terrain" formed by complex patterns of depressions in the surface
	<u>Galatea</u>	a shepherd moon (see above) for the Adams ring
	other Neptune moons: <u>Proteus</u> , <u>Thalassa</u>	

Region	Major Works	Details
asteroid belt	<u>Ceres</u>	largest object and only <b>dwarf planet</b> in the asteroid belt; visited by <b>Dawn</b> probe, which orbited Ceres until it ran out of fuel in 2018
	<u>Vesta</u>	second-largest asteroid belt object; also visited by <b>Dawn</b>
Kuiper belt	<u>Pluto</u>	largest trans-Neptunian object (TNO); dwarf planet orbited by <b>Charon</b> , <b>Styx</b> , <b>Kerberos</b> , <b>Hydra</b> , and <b>Nix</b> ; visited by the <b>New Horizon</b> probe; discovered by <b>Clyde Tombaugh</b>
	<u>Eris</u>	dwarf planet orbited by <b>Dysnomia</b> ; with <b>Sedna</b> , it was used to demonstrate that Pluto has not cleared its local area, leading to Pluto's reclassification from planet to dwarf planet
	other Kuiper Belt objects: <u>Haumea</u> , <u>Makemake</u> , <u>Gonggong</u>	