



Expedition Mars Pre-Mission Vocabulary



CLC Terms

Mission Commander – the person who is in charge of the astronauts onboard a space vehicle

Flight Director – the person who supervises a space mission from Mission Control

Simulator – an artificial environment created to resemble an actual place

Task Cards – a step-by-step set of written instructions for performing a job

Orientation – an introduction, as to guide one in adjusting to a new activity

Airlock – a device that permits the passage of people and objects between areas while minimizing the change of pressure and loss of air

Communication (COM) – means of sending or receiving information

Navigation (NAV) – the science of getting ships, aircraft, or spacecraft from place to place, especially related to the method of determining position, course, and distance traveled

Medical (MED) – relating to the science of medicine, or to the treatment of illness and injuries

Robotics (BOT) – a branch of engineering that involves the conception, design, manufacture, and operation of robots that can assist humans in a variety of ways



Expedition Mars Pre-Mission Vocabulary



ROV – a remotely operated vehicle that is an unmanned tool for exploring distant locations

Geology (GEO) – the science that deals with the history of the earth and its life, especially as recorded in rocks

Biology (BIO) – the branch of science that deals with living organisms and their vital processes

Life Support (LS) – the components of a spacecraft that address the core needs of human life, including air, water, and oxygen supply

Space Weather (WX) – the variable conditions on the sun and in space that can influence the performance of the technology we use on Earth

Mars Mission Terms

Docking – joining with a space station or another spacecraft while in space

Altitude – the vertical elevation of an object above a surface (such as sea level or land) of a planet or natural satellite

Velocity – the speed of something in a given direction

Satellite – an artificial body placed in orbit around the Moon, Earth, or another planet in order to collect information for communication

Orbit – the path followed by an object around another object

Launch – to release, catapult, or send off



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Crater – a basin resulting from the collision of an object with a planetary surface

Drone – a remote-controlled pilotless aircraft or small flying device used for many purposes, including surveying the land and transporting materials

Deploy – to bring into action and make useable

Atmosphere – the envelope of gases surrounding the earth or another planet

Asteroid – a large, irregularly shaped rocky object in space that orbits the sun

Ejecta – material or particles that are forced or thrown out of an area after a forceful impact has occurred

Impact – the action of one object coming forcibly into contact with another

Radiation – a form of energy that is emitted in the form of rays, electromagnetic waves, and/or particles; space radiation can cause health problems in astronauts who are exposed

Greenhouse – a structure enclosed and used for the cultivation of or protection of plants

Touchdown – the moment at which a part of a spacecraft makes contact with the ground during landing

Troubleshoot – to identify, plan, and resolve a problem



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Job-Specific Terms

Communication (COM)

Frequency – the number of waves that pass a fixed place in a given amount of time

Quadrant – each of four parts of a surface, divided by two intersecting lines

Navigation (NAV)

Descent – an action of moving downward, dropping, or falling

Liquid Fuel – the substance that burns to create the expanding gases that power a rocket engine

Oxidizer – a source of oxygen necessary in the vacuum of space, where there is no oxygen to help ignite the fuel

Aerobraking – a spaceflight technique wherein an orbiting spacecraft brushes against the top of a planetary atmosphere; this process slows down the spacecraft

Orbital Period – the time it takes the spacecraft to complete one orbit

Thrust – the force that propels a rocket forward, allowing it to overcome gravity and atmospheric drag to reach orbit

Medical (MED)

Nutrients – substances that promote growth, provide energy, and maintain life

Nutrition – obtaining the substances necessary for growth and good health

Treatment – something that healthcare providers do for their patients to control a health problem, lessen its symptoms, or clear it up

Wellness – the optimal state of health

Deficiency – a lack or shortage of something

Calories – units of energy, often used to express the nutritional value of foods

Microgravity – the condition in which people or objects appear to be weightless



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Robotics (BOT)

Programming – providing instructions to a computer to perform a set of actions without direct human control

Mass – the quantity of matter contained in an object

Coordinates – a group of numbers used to indicate the position of a point

Robotic Arm – a mechanical, programmable machine that can perform tasks similar to a human arm, such as grasping and placing objects

Elevation – height above sea level

Rover (ROV)

Payload – the object or the entity that is being carried by a vehicle

Bus – the ROV body that holds the core

Assemble – put together

Power – a source or means of supplying electrical energy

Mass – the quantity of matter contained in an object

Geology (GEO)

Vein – a line formed on a rock when water passes over it; can show that at one point the rock was exposed to water

Porous – description of a rock that has a lot of small holes in it

Mineral – a solid inorganic natural substance

RAT – Rock Abrasion Tool; used to remove the surface layer to view the minerals below it

Biology (BIO)

Microbe – a living thing that is small or microscopic, such as bacteria or fungi

Cultures – cells or tissue grown in a material containing nutrients

Bacteria – singular, one-celled organisms with cell walls

Beneficial – producing good or helpful effects



Expedition Mars Pre-Mission Vocabulary



Life Support (LS)

Thermostat – the controls used to regulate a heating system

Air Pressure – the pressure exerted by the weight of air on the earth's surface

Configuration – the arrangement of different parts or components in a particular form or combination

Air Filter – a device for filtering particles of dust, smoke, pollen, mold, viruses, etc. from the air

TDS – total dissolved solids; a measure of anything dissolved in water that is not an H₂O molecule

Humidity – the amount of water vapor in the air

Desiccant – a substance used to absorb moisture, used when the air is too humid

pH – a scale used to specify the acidity or basicity of a liquid

Space Weather (WX)

Starfield – any set of stars visible in a field view of a telescope, usually in the context of some region of interest

Trajectory – the path followed by an object moving through space

Current – the measure of the amount of flow of electrical charge

Power – a source or means of supplying electrical energy