

Rendezvous with a Comet Life Support (LS)

The health and safety of the crew are the primary responsibilities of the LS team.

Standards	Space Station Systems and CLC Teams
<p>National Science Education Standard: <i>Organisms have basic needs. Plants require air, water, nutrients and light. Organisms can survive only in environments in which their needs can be met.</i> <i>Objects have many observable properties, including size, weight, shape, color, temperature, and the ability to react with other substances. Those properties can be measured using tools, such as rulers, balances, and thermometers.</i> <i>Objects are made of one or more materials, such as paper, wood, and metal. Objects can be described by the properties of the materials from which they are made, and those properties can be used to separate or sort a group of objects or materials.</i></p> <p>Mass Curriculum Framework: <i>Differentiate between properties of objects (e.g., size, shape, weight) and properties of materials (e.g., color, texture, and hardness).</i> <i>Recognize that the measurement of volume and mass requires understanding of the sensitivity of measurement tools (e.g., rulers, graduated cylinders, balances) and knowledge and appropriate use of significant digits.</i></p>	<p>Atmosphere management system – atmosphere composition control, temperature and humidity control, air pressure control, atmosphere regeneration, contamination control. Water management system – provision of potable and hygiene water, recovery and processing of waste water Power management system – continuous and reliable electrical power generation for equipment and energy needs.</p> <hr/> <p>During the CLC mission, students will apply what they have learned in the classroom to:</p> <ul style="list-style-type: none"> ○ Test Spacecraft water supply in all 4 reservoirs <ul style="list-style-type: none"> ■ pH – important to both humans onboard and plants growing in the greenhouse onboard. (REMOTE team is responsible for the greenhouse plants.) ■ Dissolved solids – all water onboard is recycled and must be tested constantly. ○ Monitor atmosphere support systems <ul style="list-style-type: none"> ■ Temperature ■ Barometric air pressure ■ Relative humidity ○ Monitor airflow and air exchange systems <ul style="list-style-type: none"> ■ Lithium hydroxide filtration system removes carbon dioxide from spacecraft atmosphere. (REM oxygen-carbon dioxide air exchange.) ■ Filters in the airflow system are tested for radiation levels. (ISO 3 tests air filters.) ○ Test solar electrical power systems <ul style="list-style-type: none"> ■ Test filters designed to protect solar array panels. (ISO 2 micrometeoroid shields.)

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