

ISS FASTLab Materials List (*Preliminary*)
Updated 5/29/24

This list is preliminary and may not be comprehensive. If experiments can be improved with materials not included in this list, that should be described and will be assessed for feasibility.

Examples of materials and equipment you can propose (not comprehensive):

- Extensive shop tools
- Pipettes and syringes of various sizes
- Plastic tubing and tube clamps
- Various fabrics (clothing items, cloth, stowage bags, etc.)
- Squeeze bags with straws (various sizes)
- Paper products and writing implements
- Laptop computers with standard office software
- iPad Pro 3rd Generation. Includes Sensor Play application for data logging
- Wires, batteries, Digital multimeter, some electronics components
- Temperature sensors
- Air temperature, humidity, and CO2 measurements
- A variety of still and video cameras, and filters
- Handheld portable fans
- Timers and watches
- Water, some lubricants
- Hygiene products
- Objects of various masses can be obtained for low-speed collision experiments
- Attachment items (rope, string, velcro, bungees, clips, tape)
- Remote sensing devices
- Office supplies
- Containment (ziplocks, bags, tethers, bungees)
- Sound sources, measurement tools
- Heat sources, thermocouples
- Light sources, measurement tools
- Lab equipment: test tubes, forceps, agar plates filters
- Centrifuge
- Velocicalc meter (measures air flow; relative humidity, pressure, temperature, air speed)
- Food and drink items
- Foam and padding
- Exercise equipment: Bike, Treadmill, Resistance bands

- Suction device
- Water filtration
- Trash

Crew Toy List

- Purple Dyna band (6)
- Thera band (2)
- Superband ½ inch (2)
- Superband ¾ inch “medium”
- Superband ¾ inch “heavy”
- Eggsercizer
- Exercise tubing assembly
- French hook (S, L, XL)
- Grip Mastre
- Grip Strength Dynamometer
- Hand Grip
- Pinch Gauge
- Box with Lid
- Hollow Aluminum Ball
- Loop Ball
- Loop Track
- Low Tension Spring
- ZipLock
- Steel Hollow Sphere
- Travel scrabble kit
- Plastic slinky
- Nerf Vortex
- Mini basketball hoop
- Trivia Cards
- Inflatable Earth, Moon, Sun, Soccer Ball
- Hand Pumps
- 30 cc Syringe
- Repeater Pipette

Use of some research facilities and materials might be possible on a non-interference basis. Dependencies on the following items may reduce or delay opportunities to conduct your experiment. Proposals that wish to use these should highlight the significant educational and scientific value that access allows.

- Waste leaf and plant trimmings from on going vegetation experiments
- Ultrasound device
- Radiation sensors
- Scientific freezers

Other considerations:

- Dedicated research hardware cannot be used for this program.
- Allotted astronaut time must include reading procedures, collecting materials, conducting experiments, capturing data, and restowing equipment. Assume 15 minutes of preparation, 30 minutes maximum for conducting experiment, 10 minutes to stow equipment. Requiring less time may increase likelihood of selecting and performing experiments.
- Earth observations are possible from the Cupola windows and other locations on Station. If the experiment requires specific geographic locations or specific day/night timing this should be specified.
- Background information about the International Space Station and the current crew on board can be found here:
<https://www.nasa.gov/international-space-station/>
- YouTube has many existing videos showing past experiments and operations on the ISS.