Recommended Materials

The following equipment and building materials are required to complete this challenge. The quantity will depend on the number of students participating. Alternatives and additional materials can be used if desired, but be mindful of safety when allowing students to bring in or handle materials that could potentially be dangerous.

Each team will require the following items:

Figure 5. Household supplies that could be used as construction materials for the challenge.

- Digital scale or balance
- Measuring tape that includes metric units
- Rulers that include metric units
- Stopwatch
- Small sealable plastic bag to hold cargo inside capsule
- Weights, such as a penny or washer to serve as mass
- Hole reinforcements or stickers with holes
- Each team should have a copy of the Cargo Bay Template provided in this guide. It can be copied on any weight of paper, but all copies need to be the same paper weight.

Examples of additional building materials that may be used:

- Balloons
- Binder clips
- Bubble wrap
- 16-ounce clear drinking cups
- Cardstock
- Craft sticks, lollipop sticks, or tongue depressors
- Clothespins
- Cloth
- Coffee filters
- Cotton balls
- Glue
- Heavy-duty aluminum foil
- Magnifying lenses and mirrors
- Manila folders
- Miniature aluminum foil pie plates
- Modeling clay
- Paper (copier, construction, and waxed)
- Paper bags
- Paper towel tubes
- Plastic eggs
- Plastic wrap (clear and colored)
- Polystyrene cups
- Poster board
- Rubber bands
- Skewers
- Staplers and staples
- Tape (packing, duct, masking, and transparent)
- Yarn
- Washer