Recommended Materials

The following 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.

Figure 7. Household supplies that could be used as construction materials for the challenge.

Each team will require the following items:

- Digital scale or balance
- Stopwatch
- Measuring tape
- Ruler
- Thin string (e.g., embroidery thread, twine, or yarn)
- Small sealable plastic storage bag to hold payload inside capsule
- Washers, marbles, or pennies 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 materials that may be used:

- Aluminum foil
- Balloons
- Binder clips
- Bubble wrap
- Cardboard or cardstock
- Clothespins
- Cloth
- Coffee filters
- Cotton balls
- Craft sticks or tongue depressors
- Glue sticks
- Mini aluminum foil pie plates
- Modeling clay
- Paper bags
- Paper clips
- Paper towel or toilet paper tubes (empty)
- Pennies
- Plastic eggs
- Plastic wrap
- Rubber bands
- Skewers or stirrers
- Staplers and staples
- Straws
- String
- Tape (masking, electrical, transparent, duct)