

Amazing Supersonic Decelerator: Parachuting on to Mars

Materials List

For the Instructor:

POM Presentation Slides for Students ready to project on a screen
Copy of *POM Discussion Guide*
Copy of *POM Challenge Checklist*
Copy of the *Educator Guide*

For each group of 3-5 students:

- 1 Capsule template (last page of Educator Guide) copied on cardstock paper or old file folders
- 1 Plastic egg or sealed plastic baggie that will fit in capsule.
- Weights to place inside the plastic egg or baggie (marbles, washers, etc.), about 15 grams
- Embroidery thread or thin string, about 1 meter
- Hole reinforcements (5-10 per group)
- Scissors, 1-2 pairs
- Clear tape, 1 roll
- Metric ruler
- Several sheets of 1 cm graph paper
- Student pages (These begin on Page 6 of the Educator Guide. Copy pages 6 and 9-11.)
- Drag device materials - Students will be focusing on the surface area as the challenge variable, not the type of material they will use. Choose and provide 1-2 types of materials for the students to choose from. Students may select a combination of materials. Suggestions for materials:
 - Plastic trash or grocery bags
 - Large lightweight fabric scraps
 - Wrapping paper or tissue paper
- Camera or video camera to document their activities
- Copy of *Media Release Form* for each participating student
- Copy of *Video Criteria and Rubric*
- Access to laptop or desktop computers with high-speed internet connection and video editing software

In Classroom for all students to share/ use

Digital scale or balance
Deploy area of at least 2 meters high. An open stairwell, balcony or sturdy ladder will work.
Hole punch
Stopwatch (2-3)